Focusing on the Future:
The New Atlantic Revolution

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The views expressed in this study are those of the author, and do not necessarily represent the views or policies of the Council of Atlantic/Maritime Premiers.

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EXECUTIVE SUMMARY

Canada's new century beckons with many conflicting forces of change—calls for more *laissez-faire* and limited government; decentralization of Ottawa's spending powers and responsibilities; dramatic integration of Canada's economic, industrial, and scientific sectors with its continental neighbours; intensifying demands for quality delivery of public services in cost-effective ways; and unprecedented change owing to globalization, technology, demographics, and public expectations.

These cross-currents of change create both challenges and opportunities for Atlantic Canada. The intensity and rapid evolution of these forces mean that the provinces of the region must renew and strengthen their commitment to cooperation. The measures of the past to enhance services and to "fix" problems like interprovincial trade barriers must continue and increase. However, these incremental approaches, while vitally necessary, are not sufficient to ensure that the region benefits fully from the changing global environment. The region's long-standing approaches to cooperation must be complemented by bold measures to transform existing institutions and approaches, and to create new structures and initiatives.

Accordingly, in early 2000, the Council of Maritime Premiers commissioned an external review of the challenges and choices facing the region. In May 2000, the Province of Newfoundland and Labrador joined the study as a full partner. The terms of reference call for the work to include both a review of existing areas of cooperation, and an identification of new areas for cooperation.

Work began in the spring of 2000 with a wide-ranging literature and document review, followed by the core of the work: interviews with over 150 knowledgeable individuals—including academics, bureaucrats, politicians, health specialists, journalists, entrepreneurs, union leaders, presidents of higher education institutions, and past and present staff of Maritime agencies. Further insights and findings were gained by meeting with various Atlantic groups at conferences, workshops, and seminars. These discussions addressed the broad themes of the study—the Atlantic economy; issues related to competitiveness and productivity; sectors such as health care, education, transport, financial services, and education; and possible public policy initiatives.

This report is the culmination of that work. It opens with an introduction to the project in Chapter One and a brief historical overview in Chapter Two of the structures and processes of regional cooperation, and an assessment of the progress made during the 1990s on three key fronts: removal of barriers, access to capital, and increased exports. Next, in Chapter Three, the report analyzes the changing global and national context for Atlantic cooperation, with particular attention to three key forces: globalization, information, and innovation. In Chapter Four, the report then examines both the weaknesses of the Atlantic region—exports, innovation, value-added, and financial capital—and its strengths, including the emergence of a new generation of entrepreneurs and can-do spirit. The final sections of the report outline a new agenda for action on Atlantic cooperation, calling for bold new measures with regard to both existing and potential initiatives.

This agenda can only be achieved through strong, effective structures and processes for cooperation. Chapter Five sets out a substantially redesigned organizational structure for Atlantic cooperation:

- a greatly strengthened policy role for the Council, coordinated at the centre by intergovernmental affairs personnel and Council staff;
- a separate, reorganized, administrative unit to manage ongoing ad hoc initiatives, secretarial functions for ministerial and premiers' meetings, and the annual New England Governors/Eastern Canadian Premiers' Conference;
- a reconstituted Education and Learning Commission, designing and executing specific programs and policies in lifelong education, IT coordination, and initiatives for state-of-the-art learning technologies and learning ware for both the region and for export; and
- a new Atlantic Canada Health and Technology Commission.

Chapter Six sets out bold new initiatives to capture the opportunities of the future:

development of a world-scale energy cluster in Atlantic Canada, to be led through cooperative initiatives by the region's power utilities;

- strong action in procurement and electronic service delivery to make Atlantic Canada the prototype of e-government in North America;
- transformation of the region's post-secondary educational system through regional integration of "back office" functions, coupled with global outreach to foreign students and full liberalization of all tuition and fees; aggressive commercialization of research in partnership with foreign and domestic companies; and, ambitious and uncompromising action in support of the e-government goal set out above;
- creation of a world-class, self-sustaining business school in Atlantic Canada, through a virtual enterprise building on the best that each existing business faculty has to offer and linked to other leading schools around the world; and
- establishment of a new Atlantic Canada Health and Technology Commission to provide a regional advisory and catalytic function in such areas as e-medicine, IT system procurement, technology commercialization, health system development, and health services education.

These are bold initiatives. Some will be very controversial. That is their intent—to provoke discussion and debate. This report has sought to be future-directed, to focus on how the world at large is influencing Atlantic Canada, and to help shape a vision of Atlantic Canada in that future. Globalization in all its forms holds challenges, but also immense opportunities. If this document can help to meet the challenges and seize the opportunities—in short, to further the New Atlantic Revolution—it will have fulfilled its purpose.

"Today we reaffirm our commitment to Maritime cooperation. More intensive, certainly, but based on our solid record of success, and on our regional and provincial identities."

– Letter from Maritime Premiers, May 1991

1.0 INTRODUCTION: STUDY MANDATE

In March 1991, the Maritime premiers launched a wide-ranging cooperative initiative to integrate and strengthen their economies. The *Maritime Economic Cooperation Act*, passed by all three provinces in 1992, set out a vision for the future of the region: a vision of self-reliance, prosperity, and well-being, through closer cooperation. The Act established a framework for action to build a single Maritime market; to create a competitive, entrepreneurial business climate; to increase the self-reliance of individuals and businesses; and to improve the infrastructure of the region. In achieving those goals, the partners committed to establish and maintain high standards, and to wisely use natural resources.

That initiative built on a history of cooperative endeavour stretching back for decades, and formalized in 1971 through the founding of the Council of Maritime Premiers. During the 1970s and 1980s, a network of cooperative institutions, linkages, and activities was put in place to provide coordinated services and programs to Maritimers. In some cases, these measures enabled services and programs that partners would not have been able to undertake on their own, enhancing equity and accessibility across the region. In other cases, cooperation allowed these programs and services to be provided more efficiently and cost-effectively, or at a higher level of quality than would otherwise have been possible. In general, these measures were driven by the enduring goal of governments to serve their citizens as well as possible.

As the 1980s drew to a close, it was clear that the region was facing complex and rapid changes. Globalization and technology were bringing about structural economic shifts and realignment, leading to growing pressures for liberalization and deregulation. Mounting fiscal pressures on the federal government held the prospect for restraint in the region's transfer regime, while demographic and social changes were leading to heightened citizen expectations of government. In recognition of these pressures, the Maritime premiers commissioned a study by this author. *Standing Up to the Future*, released in 1989, delineated the challenges facing the region and called for an aggressive agenda of cooperation and change in support of economic development. In particular, the report called on the Maritime premiers to take action to remove all interprovincial trade barriers within the region; to enhance the availability of venture and equity capital within the region; and to increase the level of exports from the region by 50 percent within five years.

The Maritime Economic Initiative of the 1990s took that agenda forward, achieving substantial successes in a number of areas. In other areas, work remains to be done. In many regards, however, the progress that has been achieved has only served to keep pace with the pressures for change. Today, our world is changing even faster than a decade ago. The forces of globalization and innovation have intensified and accelerated over the decade. Other factors

have shifted dramatically over the decade–the fiscal situation of many governments has improved significantly, while in the area of human capital, demographics and changing labour markets are rapidly moving us into an era of intensifying skill shortages. Changes such as these call out for a new strategic assessment of the global context and future prospects for the Maritime region, and a new action plan to attain the continuing goals of well-being, prosperity, and self-reliance.

This report addresses these issues in the context of Atlantic Canada provincial policy cooperation and integration. The central assumption in this study is fundamental: the advances in economic growth–real wealth creation, employment growth, and productivity–have relatively little to do with political arrangements per se. The real issues are policy-directed–growth values, desire to strengthen the corporate knowledge base for innovation, and the capacity to lever all the supportive instruments of growth–including the civil service, the public utilities, the universities, the primary and secondary education system, and the corporate base of the private sector, including foreign companies.

The study addresses two main issues. The first is, given the global context of economic development, what are the specific implications for Atlantic Canada? Second, given this global context, how might Atlantic Canada be positioned to deal with global opportunities? Both issues go to the heart of improving the economic competitiveness of the region. Strong public policy adds to the wealth creation process. Direct delivery of programs and supports is playing a shrinking role, partly due to globalization, partly because of the constrained resources of the past decade. But beyond this, the forces of change in our environment are shifting government's role from delivery to establishing the proper political framework, rules and incentives, and policy goals, so that other players know and operate within the agreed framework.

In this context, the notion of Atlantic political union is a red herring. Administrative rationalizations and mergers have a mixed record at best. The region is neither over-governed nor over-legislated. The challenge is quite different: Atlantic Canada is under-managed in a strategic sense, and under-organized around strategic objectives. Globalization, digital technology, and the Internet are the prominent features opening up new opportunities for Atlantic Canada but they require innovative, indeed, radical policy responses. The new challenges are organizational and managerial–quality people, critical mass of skills, speed and flexibility in decision-making, the capacity to build alliances and networks, the need to drop yesterday's assumptions and accepted orthodoxy. Which choice–status quo or bold solutions? That is the central strategic issue for Atlantic Canada. That is the central theme for the need for an Atlantic approach to administrative cooperation, policy integration, and most importantly, consistency of purpose.

Accordingly, in early 2000, the Council of Maritime Premiers commissioned an external review of the challenges and choices facing the region. In May 2000, the Province of Newfoundland and Labrador joined the study as a full partner. The terms of reference call for the work to include a review of existing areas of cooperation, and an identification of new areas for cooperation. Both of these are to be assessed according to the following criteria: effect on the economic competitiveness of the region; level of cost efficiencies to governments in the delivery of programs and services; and effect on the quality or level of services to citizens of the Maritime provinces. The work was to be based on an analysis of emerging global, national, and

regional environments, and identification of trends and issues with an impact on the region and on regional cooperation. It comprises four elements:

- Phase I: a detailed project proposal setting out the work plan, research instruments, and timeframes;
- Phase II: a report to the Project Steering Committee on the findings of the research and consultations;
- Phase III: preliminary analysis and identification of priority areas of cooperation with regard to both existing and proposed initiatives; and
- Phase IV: final recommendations on potential new directions for regional cooperation.

This final report integrates the work of these four phases.

The study began with a review of the relevant literature on regional studies generally and studies on Atlantic Canada in particular (see Appendix One may request through the Council additional reference information on specific topics addressed in the report.

Next, an initial series of interviews was conducted with key decision-makers chosen from a wide spectrum: academics, bureaucrats, politicians, health specialists, journalists, entrepreneurs, union leaders, and presidents of higher education institutions. This initial survey of 'experts' provided keen initial insights on issues, trends, priority policy areas, plus a suggested pool of people to interview either on general or specific topics.

The study was guided (but not constrained) by the Project Steering Committee, made up of deputies of Intergovernmental Affairs in each province. They provided further suggestions on experts to interview and consult on an ongoing basis. In all, over 150 people were contacted and interviewed in depth, including individual senior staff, past and present, of existing agencies and commissions of the Council. These interviews, like all others, were open-ended, frank, and unconstrained. They also included feedback and assessment of possible recommendations for the study. The topics covered such issues as the assessment of existing and future areas of policy cooperation, specific priority initiatives for cooperation, political and other constraints on Atlantic cooperation, possible recommendations for new directions and initiatives, as well as changes to current practices and institutions.

Further insights and findings were gained by meeting with various Atlantic groups at conferences, workshops, and seminars to address the broad themes of the study and to seek out sector views on the Atlantic economy; issues related to competitiveness and productivity; sector problems and challenges such as health care, education, transport, financial services, and education; and possible public policy initiatives. These public audiences provided two-way advice on both the problems and challenges of the Atlantic region, and stakeholder inputs on potential new areas of regional cooperation and initiatives.

In the end, the study itself, and the recommendations, reflect three sources of advice:

- individual advice and opinions on the existing state of Atlantic cooperation, processes, structures, and political will;

- inputs from a wide range of sectoral groups, community leaders, industry and union stakeholders, government officials and private entrepreneurs interviewed for the study; and

- the views and judgment of the study investigator.

All interviews were confidential. In some cases, interviewees asked to elaborate on their views in writing but on the basis of strict confidentiality. There were numerous phone calls and e-mails addressing specific points. In the end, the primary responsibility for errors of omission and commission remains with the investigator.

This report opens with a brief historical overview of the structures and processes of Maritime cooperation, and an assessment of the progress made during the 1990s on the three key thrusts called for in *Standing Up to the Future*: removal of barriers, access to capital, and increased exports. The report then analyzes the changing global and national context for Maritime cooperation, with particular attention to three key forces: globalization, information, and innovation. The intensity and rapid evolution of these forces mean that the Maritimes must renew and strengthen their commitment to cooperation. In this context, the report then examines both the weaknesses and the strengths of the Maritime region. The measures of the past to enhance services and to "fix" problems like interprovincial trade barriers must continue and increase. However, these incremental approaches, while vitally necessary, are not sufficient to fully meet the challenges and realize the opportunities facing the region. They must be complemented by bold measures to transform existing institutions and approaches, and to create new structures and initiatives. The final sections of the report address these measures, outlining a new agenda for action on Maritime cooperation with regard to both existing and potential initiatives.

2.0 ATLANTIC CANADA COOPERATION: PAST AND PRESENT

The Maritime provinces–New Brunswick, Nova Scotia, and Prince Edward Island–have a long history of cooperation, across a wide spectrum of issues and policy initiatives. Indeed, Maritime cooperation predates Confederation, and has since taken on varying stages of urgency. Over the years, cooperation has ebbed and flowed as a result of several factors–the personal initiatives of the premiers, the national policy agenda, the circumstances of international and, increasingly, global issues, and the inevitable electoral cycles.

The current era of cooperation had its roots in the so-called "Atlantic Revolution" of the 1950s, with external pressures–from the private sector, via the Maritime Board of Trade, and from Prime Minister St. Laurent–which challenged the provinces to work together to improve the economy of the region. This led to the creation of the Atlantic Provinces Economic Council, and encouraged Atlantic premiers to begin a practice of annual meetings which led to a web of formal and informal cooperative activities, particularly in the fields of health and education. In 1968, during another era of change and ferment in the Canadian polity, the Maritime premiers commissioned a study of Maritime Union. In 1971, they responded to its recommendations by creating the Council of Maritime Premiers, as described in the Council's 1999 Annual Report:

> *"[the] Council is a body formed by agreement between the Governments of New Brunswick, Nova Scotia, and Prince Edward Island in May 1971 and ratified by legislation in 1972. Its purposes and powers are extensive, allowing the premiers considerable latitude in intergovernmental cooperation.*
>
> *The purpose of the Act creating the CMP was to provide an effective legal framework for cooperation, with the goal "to ensure maximum coordination of the activities of the governments of the three provinces and their agencies." Responsibility for meeting the goal is held by the Maritime premiers themselves, or is delegated to the appropriate ministers, regional boards, commissions and committees, or to the Council Secretariat.*

The decade of the 1970s saw rapid expansion of institutions and structures for cooperation within the region. By the beginning of the 1980s, there were over 30 organizations with operating revenues of over $50 million, as well as a dozen regional committees in a wide range of sectors. A number of the organizations worked within the education sector, while others provided common services such as: land mapping and registration; municipal training and development; adoption; lottery administration; specialized lab services; advisory services; and policy coordination. Their work was complemented by that of the regional committees, which administered programs and services such as joint tourism marketing, and coordination and administration of the interprovincial electrical grid.

In the 1980s, the pace of cooperation slowed somewhat, given that a base of structures and programs had already been put in place in the areas of most need or potential. Cooperation continued most strongly in the education field. Major initiatives during the decade included the establishment of the Maritime Provinces Education Foundation in 1982 (albeit with a very modest level of resources during its early years); and the negotiation and establishment of the Atlantic Veterinary School in Charlottetown and the Maritime Forest Ranger School in Fredericton during the mid-1980s; with a combined investment of over $60 million.

Most of these measures during the first two decades of the CMP reflected the lasting motivations for cooperation. Particularly in the education field, a regional approach provided critical mass–allowing services to be offered that would not otherwise have been possible for each jurisdiction, or that would have been offered at a lower level of quality. In other areas, joint service provision provided economy of scale and reduced duplication and overlap, leading to cost savings and greater consistency in services.

Beyond this web of organizations and activities, the region also engaged in less visible forms of cooperation. The CMP provided a vehicle for the development of common regional positions on issues facing the region–particularly where those involved external threats or challenges in such policy fields as transportation, transfer payments, and regional development approaches. The Council also provided a means of initiating and carrying out harmonization and integration of regulations, services, taxes, and other instruments of government affecting the private sector and the public at large. Although some work was done in the 1970s and 1980s along these lines, particularly in the transportation field, it took place within a larger context of proliferating regulatory and administrative systems–increasing interprovincial trade barriers and hampering the growth and competitiveness of the region's private sector.

These developments, together with the flagging pace of cooperation, played a role in the decision of the Council in 1988 to commission a hard look at the region's political and economic environment and future prospects. *Standing Up to the Future*, released in 1989, identified that the Council had become increasingly preoccupied over the years with operational and process issues, making it difficult to hold the attention of the premiers. Moreover, it was losing ground on dealing with the major strategic issues facing the region. Then as now, the core thrust of the report was a call on the Council to shift its focus to these strategic issues, with emphasis on economic development. In particular, the report proposed three dramatic examples for the premiers' new agenda:

- removal of all interprovincial trade barriers in the region;
- creation of a Maritime Savings Development Fund to address the shortage of venture capital and equity capital in the region; and
- a trade promotion strategy aimed at increasing the level of exports from the region by 50 percent within five years.

The report also called for Newfoundland and Labrador to become a full partner in the Council. To put the most recent achievement first, this recommendation has been fulfilled, with the establishment of the Council of Atlantic Premiers in May 2000. This achievement built on a decade of cooperation through the Conference of Atlantic Premiers which had been founded in 1989. The Council's core focus is on developing a regional voice on issues of common interest –a commendably strategic role and emphasis, and one which opens new opportunities for progress.

Following release of *Standing Up to the Future*, the premiers took action on a renewed agenda of economic cooperation. In May 1991, they released a discussion paper, *Challenge and Opportunity*, which set out a vision, goals, and strategic measures in fifteen sectors to remove barriers to trade and to promote Maritime economic integration. A year later, in the spring of 1992, each of the Maritime provinces passed and proclaimed the *Maritime Economic*

Cooperation Act. Since that time, a number of measures have been taken which have overcome some of the barriers highlighted in *Standing Up to the Future*. Most notably, in 1992, the Atlantic Procurement Agreement was signed by the four Atlantic provinces, committing the partners to open public tendering of most contracts over set minimums. In 1995, this Act was extended to universities, schools, and hospitals. Cooperation in this area has also extended to joint purchasing of some goods and services.

Several new organizations were established or initiated:

- In the regulatory area, the Maritime Provinces Harness Racing Commission was established in 1994, replacing three provincial commissions; the Maritime Film Classification Board was put in place in 1996; and work on creating the Atlantic Judicial Council is in progress.

- In the economic development area, initiatives included Atlantic Canada OnLine, a public-private partnership to provide electronic access to government information data-bases, and joint tourism marketing initiatives.

- In the shared services area, the Maritime Geomatics Board was put in place in 1991, then reorganized into the Maritime Geomatics Committee in 1995.

Substantial progress was achieved on harmonization of several areas–notably transportation, corporate registration, insurance regulation, and environmental regulation–and on reduction of barriers to labour mobility, particularly with regard to self-regulating professional groups and tradespeople. In several other areas of harmonization and deregulation, work in the region was affected by national discussions on the same topic. In some cases, such as integration of securities regulation, Maritime initiatives preceded and prompted national discussions; in others, such as meat and dairy inspections, national initiatives overtook regional discussions; and in yet others, such as trucking, national deregulation lent impetus to regional measures.

In general, much of the "low hanging fruit" of deregulation and harmonization was plucked during the early 1990s. As the decade wore on, other initiatives which had begun strongly, such as securities regulation, slowed their momentum–impeded by a host of real and perceived barriers, including the cost implications of levelling up; reluctance to level down; real variations in the structures and circumstances of each province; and the sheer weight of history leading to the present system in each province. As the energy of these initiatives sagged, the Council became less active. In the words of an internal memo, 1999, "In recent years, the commitment to Maritime cooperation has been waning, as evidenced by fewer meetings of premiers, fewer new initiatives, and friction over regional policy interests and established institutions." Once again, as in the late 1980s, the Council has become involved in operational matters at the expense of strategic policy issues. It is time to renew the agenda with bold, new, compelling goals.

With regard to the call for a Maritime Savings Development Fund, the agenda for economic cooperation included establishment of the Atlantic Investment Fund, which evolved into ACF Equity Atlantic, Inc., in 1996–a $30 million partnership between the four provinces, the Atlantic Canada Opportunities Agency, and the chartered banks. While this represents an effort to respond to the recommendation of the report, it has not yet met expectations. The venture has already been the subject of a review, and as discussed in Section 4 of this report, the

rapidly-changing economic and capital environment raises significant questions about the appropriate role and function of this organization.

Substantial progress has also been made over the decade in an area of historical strength for Maritime cooperation–education. Most notably, a strong initiative in the elementary-secondary area achieved some important successes–the welcoming of Newfoundland as a partner in 1995, and creation of the Atlantic Provinces Education Foundation; a common core curriculum throughout the region, now being extended into further subject areas; national leadership on the development of comparable indicators and publication of findings; development of a curriculum for entrepreneurship education, in partnership with ACOA; and joint purchasing and joint efforts in materials development. Meanwhile, the Maritime Provinces Higher Education Commission, received a renewed mandate focusing on quality and permanent leadership in the late 1990s, after several years of uncertainty. Since then it has undertaken some valuable initiatives, including enhancement of its information base and coordination of research and advocacy on the region's innovation gap.

Progress was also attempted in the health field, but was not as far-reaching as in the education sector. Some progress was made in areas such as physician resource management, shared services, and joint tendering. In many other areas, work eventually wound down with recommendations that the item be "removed from the agenda." In fact, there is a substantial network of shared health services and health training throughout the region; however, the assessment in a CMP internal memo of 1989 still appears valid:

> *The health sector has a considerable interprovincial dimension that has not been well documented and is not well integrated ... The gross and net financial flows for the whole health sector will be among the largest of all sectors and warrant better documentation. Management of this sector probably warrants better structures.*

This issue will be further addressed in Section 5 of this report, on new opportunities for cooperation.

In the area of exports, the region turned in a stellar performance during the 1990s–by historical standards. From 1990 to 1995, exports increased 50 percent, from $7.5 billion to $11.6 billion. From its recessionary low of $6.9 billion in 1992, the region increased its international exports by 78 percent in five years, to $12.4 billion in 1997, outstripping by far the 50 percent growth called for in *Standing Up to the Future*. On the other hand, over the same period, fuelled by the Free Trade Agreement with the U.S., Ontario increased its international exports by 92 percent; Quebec by 98 percent; and the Prairies by 88 percent. Only BC and the Territories were below the Atlantic region, at 65 percent growth from 1992 to 1997. Within the region, PEI and Newfoundland outperformed the nation, with 150 percent growth and 107 percent growth respectively. New Brunswick achieved 83 percent growth, while Nova Scotia trailed with 54 percent growth.

Why this outcome? The Atlantic Provinces Economic Council puts it succinctly in its Winter 2000 Report Card.

> *There are several reasons why Atlantic Canada did not benefit as much from the FTA in terms of export growth. These include a smaller share of trade with the U.S. and a larger proportion of exports in sectors already tariff free, as well as the issue of overall*

productivity and competitiveness of the Atlantic region. However, the main reason for Atlantic Canada's poor export performance has been a bias in the commodity composition of the region's exports towards slow-growing products.

This bias is likely to constrain overall export growth in the future, and as a result, limit the potential for export-led growth. Trade strategies must address the need to increase export diversity and value-added. Commodity composition may be the most important factor underlying the region's relative deficiency, but poor growth in general and declining relative productivity are also a major concern for long-term export performance.

These concerns are well founded. As outlined in the following chapter, the changing global environment is creating greater opportunities for Atlantic Canada than ever before–but also very real risks that the region may be left behind as other jurisdictions move more quickly and strategically to capture those opportunities. The need for Atlantic cooperation to transform our economy and secure our future has never been greater–the potential benefits, never larger.

"All progress is initiated by challenging current conceptions, and executed by supplanting existing institutions."

– George Bernard Shaw

3.0 GLOBALIZATION, INFORMATION, AND INNOVATION: THE NEW ECONOMY

Mankind is facing sweeping changes, stemming from a number of distinct but related issues. These changes are mind-boggling in their impact, because they uproot basic assumptions that have been mainstream for decades, even centuries. They create fundamentally new opportunities, especially for small, nimble economies which place flexibility, knowledge, and entrepreneurship at the centre of their industrial strategies. Consider three issues of particular importance: participation in the global economy, participation in the information economy, and participation in the new economy.

3.1 GLOBALIZATION

Globalization, in all its forms, is changing the developed world. The only real difference between countries lies in the speed of the change and innovation. The question all institutions and governments must ask is straightforward: how does globalization affect the current way of doing business?

In the past, national economies have been rooted in the ownership of land, the use of machines and capital, and the employment of persons from a finite pool of labour in a fixed, political territory. Around the world, each society's major institutions–airlines, utilities, TV networks, stock markets, banking system, post office, telephones, railways, to take prominent examples–were supported by such staples as border customs, passports, national currencies, and, often, language.

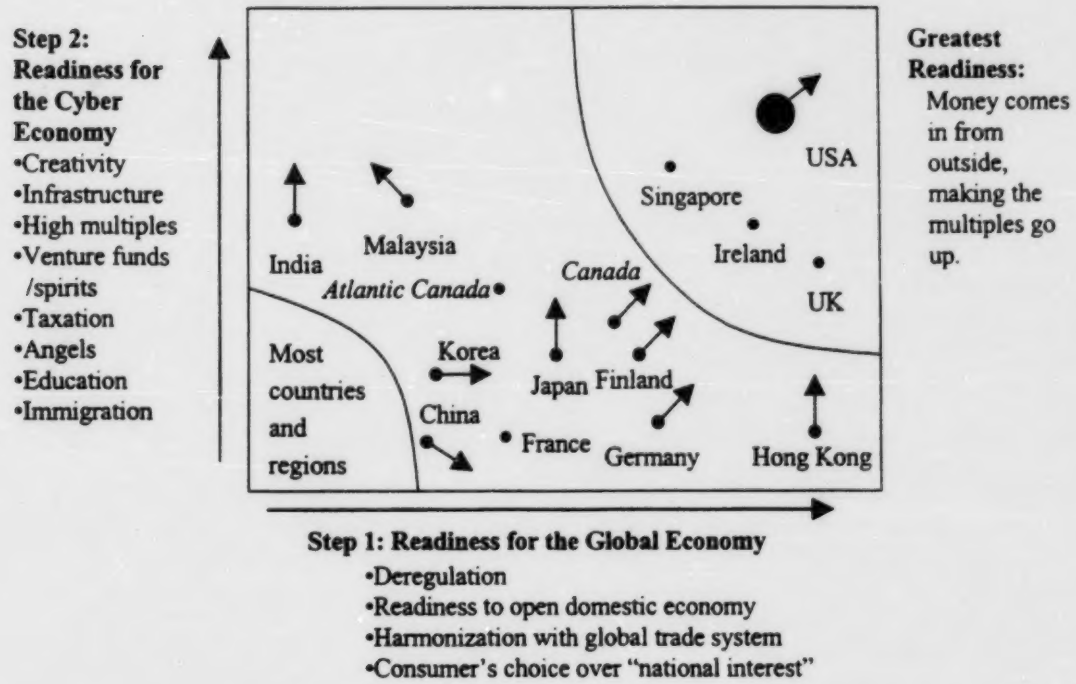
Today, the world is moving to a global economy where national borders are less and less relevant in the new mix of suppliers, customers and investors. Ideas, capital, technology and goods move around the world at lightning speed. Companies introduce products and services globally and concurrently, not in a cascade from one region to another. The world's thousands of multinationals lever the skills and resources of peoples and countries in a bewilderingly complex mix–skilled software developers in India, precision manufacturing workers in Japan, superbly talented designers in the north of Italy, creative and multilingual advertising personnel in London, and knowledgeable and innovative financial engineers in Chicago or New York. Globalization means a borderless, seamless world of networks, alliances, and ideas–fed by a voracious appetite for information and intensifying demand for smart, gifted people, comfortable in the global marketplace.

At its most general level, globalization is the progressive shift to an integrated and interdependent market. It means that the global concept is applied to daily markets–common consumer preferences, for instance–or the globalization of production, where firms can source from anywhere in the world because of the ease of transport of goods and data, sourcing of quality skills, and relative ease of coordination. Globalization is a process of levering strengths and ideas from around the world. All of these trends are both irreversible and profound. They are changing all the accepted business and managerial precepts of institutions–business, government, universities, hospitals and media.

The outlines of this global economy have been taking shape for a generation. Multinational and global firms epitomize this reality. What has changed and accelerated globalization has been the addition of large new markets to the traditional "global world", i.e., North America, Europe and Japan. These new markets include most of Southeast Asia–roughly a billion people–a quarter of China, along the coastal provinces–pockets of India, and virtually all of Latin America. Today, fully sixty percent of the world's population are unambiguously capitalist, pro-business and relatively democratic. This world holds great opportunities for Atlantic Canada.

Yet companies and countries vary tremendously in their capacity to participate and succeed in the global economy, as indicated in Exhibit 1. Success depends on venture capital and risk investment, continuous education, demographic diversity through immigration, and supportive government policies to build an entrepreneurial culture. At the same time, borders cannot be closed, nor can markets, national or provincial. Globalization beckons, even where governments seek protection.

Exhibit 1
Comparisons of Countries' Readiness for the New Economy



Source: Adapted from Ohmae (2000)

Consider the example of dairy processors. There are twelve firms in the Maritimes alone, with shipments per worker 20-25 percent below the national average, which itself is below best practice international comparisons. Not only is significant national consolidation taking

place–over 20 percent fewer establishments between 1993–1997—but large multinational firms like Nestlé of Switzerland and Parmalat of Italy, have entered the Canadian market. Coca-Cola beckons with its own range of dairy products. Stakeholders in Atlantic Canada need to consider these global and national trends and adjust accordingly. Trade barriers, small-scale, weak or non-existent R&D, and inward orientation are yesterday's choices. They are now a recipe for failure. In other words, the lessons of globalization are real: see the world as it is and adapt. The other lesson? Do nothing and lose out completely. Saputo, the aggressive Quebec cheese maker, has bought out Dairyworld, which itself has operations in eight provinces. Internal trade barriers are at the heart of the low competitiveness of Atlantic dairy producers, but so too are policy-makers who are prepared to settle for the local market and the short term.

Clearly, there are major differences in countries around the world in their readiness to meet the global challenge, even for developed areas like North America or Europe. Consider the simple comparison of Europe and the United States. One third of *Fortune* magazine's top 500 global companies are American and one third are European. But America's one third captures 54 percent of total profits, and averages 9 percent annual growth, with net profit growth of 13.1 percent. Europe's one third, by contrast, capture only 35 percent of total profits, have average annual growth of 5.6 percent, and net profit growth of 8.3 percent. Moreover, these US firms account for 41 percent of total employment, compared to 37 percent by Europeans, and they utilize few assets–27 percent compared to 44 percent in Europe. Why these differences?

Even more tellingly, in the *Financial Times* profile of the 500 most admired companies worldwide, not a single Canadian company is cited. Yet countries like Holland, Norway, Sweden and Finland have developed leading-edge companies recognized world-wide as global leaders. Why? If these small jurisdictions can play the global game, then why not Atlantic Canada?

3.2 Information

New information technologies allow knowledge, ideas, attitudes, and values to move across borders with unprecedented speed, clarity and sophistication, thereby enriching communications almost immeasurably compared to only a few years ago. In today's digital world, we can access, in seconds, any portion of the Library of Congress' holdings for only a few cents. Young people know this reality. Surveys show that 80 percent of 12- to17-year-old Canadians use the Internet, primarily for education.

Information, communication and globalization are inter-related and mutually reinforcing trends. The digital world of the 21st century is one where information technology has exploded the economic and national boundaries of the past. Even a decade ago, one could speak of three distinct information sectors, namely, voice (telephone), data (computers/software), and image (television). Today, the convergence through digital technology means not only that these sectoral differences are meaningless, but also that the advent of wireless makes all the old rules obsolete. New thinking at all levels is required.

Canada and the USA lead the world in Internet use, both for individuals and for companies. However, that is not the same thing as saying Canada and the USA lead the world in building the systems, the architecture, the software and the pipelines that run and shape the Internet. Indeed, some areas, such as Europe and Japan lead in wireless technology, because Canada and the USA have stuck to the terrestrial, copper systems, flowing from the telecommunications industry and regulatory regime of the past.

The astonishing pace of technological change in the last fifteen years has driven even more fundamental and far-reaching social and economic changes. New cyber technologies have given rise to a rapidly evolving array of day-to-day Internet-based activities, which are transforming the business and institutional landscape. The key ingredients of successful growth regions are such issues as connectivity (i.e., computers per 1,000 people), data security, education and skills, and quality of IT facilities. Not surprisingly, major multinational corporations are leading the way in Business to Business (B2B) applications. The extent and size of the corporations now engaged in B2B transactions, increasingly on a global scale, mean that the organizational and managerial models must and will extend to other sectors–including the public sector.

How industry and private entrepreneurs meet these technological challenges in Canada is an open question. How governments meet them must be the central issue in Atlantic Canada. How can governments play an enabling role in this technological tidal wave, adapting and helping institutions–public and private–at each step of the way? How can they ensure that they do not play a negative role, slowing down the rate of change, placing hurdles in the path, weakening the opportunities for innovation, entrepreneurship and new creativity?

Consider the case of education (as stated by Michael Barker).

> *In the last few years, hundreds of companies have sprung up to compete for their piece of the US$740 billion Americans spend annually on education and training. Some companies are using Internet technology to overhaul the way schools procure books and manage their financial records. Others are trying to build nationwide chains of private, for profit, branded schools. Still others are niche players, focussing on some small segment of the education industry (such as IT training) or devising new applications they hope to see embedded in the technology of other companies' products (such as adaptive learning technologies).*
>
> *But the most ambitious of these companies are the ones that want to create via the Internet a learning environment that might actually dispense with the teacher–at least in the conventional, classroom sense of the word. The education industry provides a perfect example of how the Internet is transforming the US economy by enabling the birth and development of new companies that could never exist without it.*

Peter Drucker, a leading social thinker, goes even further.

> *Online teaching, however, is more than just time-efficient and cost-efficient. It is more flexible than the classroom in that the student can replay the material if he or she doesn't get the point right away. The interactivity of online education, its facility for blending graphics and pictures with the spoken word, give it an advantage over the typical classroom. With the interactivity of the Internet, we get the equivalent of a one-to-one teacher-student ratio. The means are finally at hand to improve productivity in education.*

Exhibit 2

Canadian Computer Literacy Levels by Province

(Percentages of students using the Internet)

	Use of e-mail	Using information from external databases	Designing and maintaining Web sites
British Columbia	39	75	30
Alberta	41	81	25
Saskatchewan	46	82	16
Manitoba	50	81	32
Ontario	34	83	32
Quebec	44	80	30
New Brunswick	**31**	**86**	**21**
Nova Scotia	**53**	**79**	**33**
PEI	**65**	**83**	**46**
Newfoundland	**52**	**81**	**44**
CANADA	40	81	30

Source: Statistics Canada, 1999

School buildings exemplify the challenge and the opportunity at the most practical level. This network of hundreds of facilities touches every community in Atlantic Canada, representing a massive investment of public funds. Yet the approaches of the past called for this capacity to be used less than ten months of the year–for less than half the hours in a week. The cyber world makes this model as obsolete as the buggy whip, and opens vast new opportunities for lifelong learning and community development. The Internet requires wired, flexible, multi-purpose buildings, capable of being used around the clock, 52 weeks a year and Atlantic Canada is moving to seize these opportunities.

Prince Edward Island was the first province in Canada to connect all of its schools to the Internet, and the other provinces in the region have followed closely behind. The results are clear. Atlantic Canada's elementary and secondary students lead the nation in computer literacy, as shown in Exhibit 2. As these youth complete their education and enter the labour market, this digital literacy advantage will be an important selling point in a world with global shortages of IT personnel. This pool of human capital also holds major potential for entrepreneurship. The region's strong network of Community Access Program sites extends digital access and opportunities for digital literacy to virtually all of its citizens.

Atlantic Canada has also taken action to build an Internet infrastructure and to apply Internet strategies to government operations, both as a way to lower costs and to lever Internet applications for citizens and the private sector. For example, in 1996, the four Atlantic provinces and Unisys Canada developed Atlantic Canada On-line (ACOL), one of the first electronic government partnerships in the country. New Brunswick initiatives in e-government, could become a model for the entire country–roll out of paperless personal property system in 1995; implementation of real property information on-line (1996); and web-based renewal of motor vehicle registrations. In the fall of 2000, the Province of Prince Edward Island won a gold medal and a bronze medal for provincial service delivery innovation at Technology in

Government Week, for its telehospice service and its GPS-based civic addressing 911 system respectively, while the Charlottetown-based federal Department of Veterans' Affairs won gold for its benefits redesign IT system–three of the six top awards in Canada for e-government. Service Nova Scotia and Municipal Relations is mandated to make government services more accessible and convenient. The provincial government is working steadily to make 80 percent of all government transactions available on-line within four years.

In 1997, Nova Scotia was the first Atlantic province to offer the electronic Personal Property Registry a secure on-line database of information on property such as cars, boats, RVs, motorcycles and fixtures like furnaces and appliances. Since that time, Nova Scotia has introduced a number of on-line services including electronic motor vehicle registration renewal and on-line change of address, Registry 2000, and the Nova Scotia Business Registry (NSBR)–a partnership between Service Nova Scotia, Workers' Compensation Board, and Canada Customs and Revenue Agency. Today, the Nova Scotia Business Registry is the first of its kind in Canada and is already becoming a model for other jurisdictions like New Brunswick and Manitoba. The Nova Scotia Business Registry (NSBR) played a big role in bringing national recognition to Nova Scotia at the Distinction 2000 Awards in Ottawa in October, capturing silver and bronze medals at the Government Technology Exhibition. The silver medal was awarded for Integrated Registration, a team effort by all three organizations and a bronze medal was awarded to the WCB's Payment Processing Project in the Building Partnership and Alliances category.

For some years now the Government of Newfoundland and Labrador has been undertaking pre-budget consultations, and in the last couple of years these have been done through an Electronic Town Hall meeting which links a number of communities around the province to discuss pre-budget issues via an audio and video conferencing session. This is made possible by technology available through Memorial University's Telemedicine/TETRA facilities. The general public can participate in pre-budget consultations through a web site www.gov.nf.ca/choices/2001.

In short, Atlantic Canada is beginning to think and act in these new ways–both as a region and as a people. No region is better positioned to embrace globalization, the Internet economy and the new organizational model of networks and alliance, because the relative absence of the old, rust-bucket manufacturing economy of the past industrial age means fewer financial and employment constraints. But the embrace of globalization and the new cyber economy will take strategy, commitment, and a clear policy framework. The successes already achieved are critically important, but they are not enough. Action must be taken to extend e-government to every sector and to provide access to every citizen.

In pursuing the promise of the cyber future, governments must also be vigilant to the perils of the information economy. The digital world of globalization has its own drawbacks, creating, for example, real potential for a digital divide. Already these problems and challenges are evident in Atlantic Canada, as evidence mounts of uneven growth and widening disparities between urban and rural areas–an unbalanced mix between old economy job creation and public policy in rural areas, and concentration of new technologies and services in urban centres. More worryingly, this digital divide can be an educational divide–quality schools and teachers; IT and lab facilities located in the cities; less digital access to quality health, education, and government services in rural communities.

In meeting these challenges, governments must resist the pressures to be all things to all people, which result in fragmentation of efforts, dilution of resources, and averaging down. The wiser, strategic alternative is to build up, develop critical mass of people and expertise and constantly strive for excellence. Sweden, second to the US in computers per 1,000 people (576 vs. 580), has launched a new initiative to diffuse new opportunities to urban and rural areas by wiring every home and every business in the country with high-speed Internet access. It is a dramatic example of how governments can strengthen the internal supply of sophisticated users, push the technology curve towards improved applications, and give entrepreneurs the incentive to build capacity for local and export markets.

Here in Canada, federal framework initiatives, such as the National Broadband Task Force on high speed broadband and internet services, could be an unparalleled opportunity for Atlantic Canada to move up the curve. In doing so, however, they face critical strategic choices. What model to pursue–the railway model of the past, built around a monopoly provider that owns all of the infrastructure and the expertise, controls the movement of goods and services, and customers? Or the highway model–community-owned, flexible in size and width, and flexible for the user in time, traffic loads, and speed? Unlike the past, where railroads and roads were both viable options, the policy choice in the cyber world is critical.

Atlantic Canada has the technology end-users, the community network, the skills and experience, and the successes of the past on which to build. At the extreme, could not Atlantic Canada aspire to be the world's most connected region? If, generations ago, Atlantic politicians aspired to have every rural farm wired for electricity, why not the same today for high-speed Internet access? Could there be a single better investment and commitment to the future?

3.3 Innovation

How fast can economies grow, creating jobs, wealth, and new firms? To most people, the Internet is the symbol of the new economy, and computers and cell phones are the appliances. In fact, technological innovation goes well beyond the world of electronics and the micro chip. It encompasses everything from biotechnology and a whole range of sectors thus influenced–pharmaceuticals, agriculture, fisheries, medicine, to name a few–to advanced materials, touching everything from golf clubs to motorcycles, ski clothes to ship design.

From software in Bangalore, India, to telecommunications in Moncton, governments have a role, but it is not the traditional one of state ownership, public regulation, and monopoly. Most emphatically, it is not a model of protection and closing borders. It is one of support for quality infrastructure, ongoing training and education, global exporting, and research partnerships.

As Professor Jeffrey Sachs has written, the key is to focus on the proper mix between the public and private sectors.

> *Free markets are not enough: successful innovation requires supporting institutions. Commercial innovation today is generally a product both of basic scientific insight (based mainly on ideas in the public domain) and applied engineering (backed by patents). The first relies on universities and public laboratories, the second on private, profit-driven firms. Successful innovation requires academia, government and industry to work in harness.*

Other Canadian provinces are moving rapidly on this front. British Columbia and Alberta are investing large sums in new technologies, encouraging immigration, and attracting foreign venture investment. Alberta alone funds about 70 percent of Canada's medical research. Ontario, the country's industrial heartland, is focusing on the new technologies associated with the auto industry and telecommunications to fuel a new generation of investments, measured in the hundreds of millions of dollars. Quebec, building on the model of Quebec, Inc., is betting heavily on biotechnology, aerospace, specialized financial services and pharmaceuticals. It has an aggressive blend of venture capital, labour support, and R & D grants for start-up companies.

Much has been written about the differences between the Old Economy and the New Economy. Digital technology has certainly created enormous new growth poles, and biotechnology holds the promise of similar growth and change in many other sectors. But this does not mean that the old economy is obsolete–it means that the old economy can be transformed into the new economy through the application of innovation and new technologies.

Consider the case of the Atlantic fisheries–about as old a sector as possible in the region. But must it remain "old"? For too long, it has been used by governments, politicians, industry participants and fishermen as a social tool to protect jobs and provide income support. Emphasis has been directed to preserving the low end of the value chain, i.e., harvesting and fish plants. This approach has fostered and contributed to the external stereotype of the four Atlantic provinces as four isolated "islands" maintaining a way of life little changed in a century.

Yet, on a global scale, fisheries is high-tech and innovative–in equipment, packaging, harvesting, product lines (e.g., nutraceuticals)–indeed, all aspects of the value chain. As depicted in Exhibit 3, fisheries is, by any global perspective, a new economy model, with technological opportunities providing new forms of wealth creation at each stage of the value chain. FPI, Clearwater, Highliner, and Polar Foods are Atlantic players that are ready to lead in this new approach. Moreover, Atlantic Canada is not short of possible players and alliance partners to reshape a traditional sector into a vibrant world leader.

The fisheries also offer opportunities for pan-Atlantic Canada cooperation. New Brunswick is especially strong in aquaculture. Halifax alone has 550 scientists in marine biology. Memorial University is a leading-edge centre of deep water, oceanic marine sciences. Prince Edward Island has strengths in inshore biodiversity, fish health, and environmental technologies. How can these strengths, too often situated in non-tradable growth areas of the public sector (universities and government departments) contribute to the region's innovative capacity and global prospects? The old approaches and subsidy tools have to give way to both new vision and globally-oriented corporate models–for technology, human resources, and aggressive exporting.

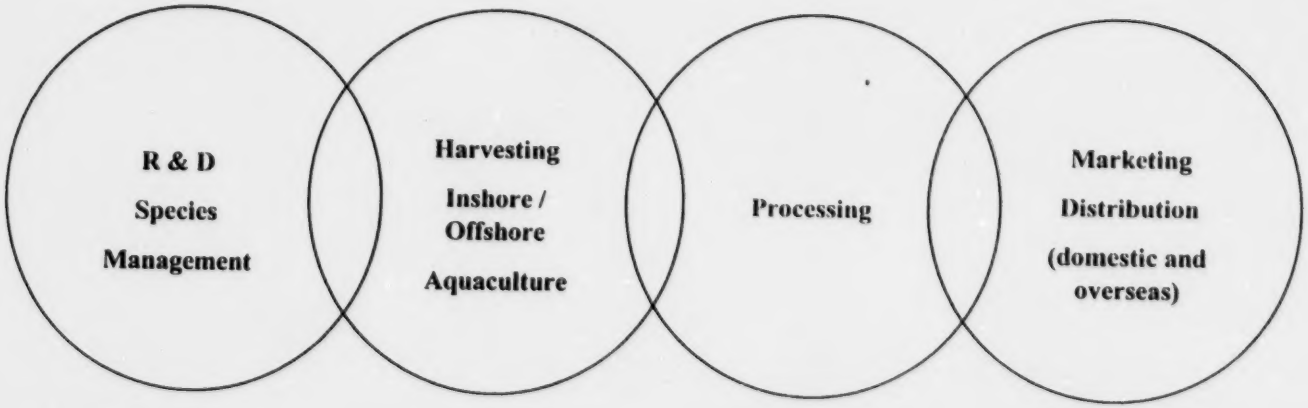
The fisheries sector is singled out, not because it is unique, but because it illustrates how a sector can be transformed by technology, global markets, and customer demand into a new economy growth model. All economies have a traditional component, where the primary focus is on factor endowments (resources) and on related resource-based manufacturing. Countries and regions around the world have focused on these linkages. Some have been immensely more successful than others–Scandinavian pulp and paper, for instance, compared to Canada's forestry sector; British and Swiss food processing companies, compared to French or Argentine firms. The successful regional economies around the world have been able to combine the

right macro policy instruments into a judicious mix of government-supported infrastructure, technology, production, and marketing in the global market, often driven by university/corporate R&D networks. Exhibit 4 generalizes the lessons from the fisheries sector, as depicted in Exhibit 3, to the economy at large.

Transformative change in the region faces significant barriers. Massive public and systemic pressures exist to adopt short-term, politically popular measures. But major structural changes are by definition long-term–encompassing up to ten years. It takes that long because the basic rules of the game change–the incentives, the rewards, the decision processes and outcomes, the capacity to develop a spiral wherein success breeds and promotes further success. Nor is the process painless. Subsidized, unproductive jobs lose out. The export sector faces higher risks, but greater rewards than localized firms. Resources–financial, human and organizational –flow to higher value-added areas of the economy.

Exhibit 3
The Atlantic Fisheries: New Economy Model

	Upstream		Downstream	
Production Functions	- Scientific work - Ocean research - GIS, satellite systems - Data analysis - Data management - Training	- Training - Equipment supply - Safety - Experimental farms	- By-products - New products - Nutraceuticals - Seaweed	- Exporting - Promotion - Brand development - E-commerce



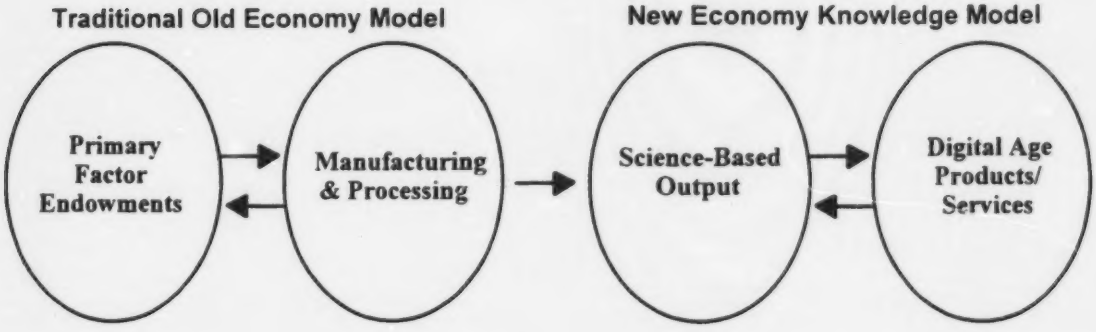
Corporate Services / Products	- Academic research - Applied research - Equipment design - Supply functions	- State-of-the-art technology - New processes - Refrigeration	- GMP standards - New methods - R & D networks	International - Corporate alliances - Overseas R&D alliances - Major distributors
Institutions	- Dalhousie - Memorial - NRC - BDC	- FPI - Clearwater - Co-ops - Highliner - Dalhousie/Memorial	- Polar Sea - Clearwater - Ocean Nutrition - Abegweit Seafoods - IRAP / NRC	- Japanese trading firms - Highliner - FPI - Clearwater

Atlantic Canada is caught between the double ambiguities of government-led growth and a relatively small private sector. The new economy opens up immense opportunities, if the region can seize the initiative. It means that, for once, the Atlantic region can begin to lead the technology curve, ahead of every jurisdiction on the continent. It means, as well, that all the engines of growth in the knowledge economy must be activist and leading-edge–the civil service, the knowledge producers, the financial and professional sectors, as well as the private sector. The past focus on the old economy, when confronted with the different needs of the new, is an obstacle to the development of a new regional consensus. To change is difficult, but to do nothing is to consign large swathes of the regional economy–and indeed ultimately, the region–to a future of low productivity and missed opportunities.

Consider an alternative case study–Ireland, as discussed in Section 3.4.

Exhibit 4

Atlantic Canada Economic Models



Sectors

- Forestry
- Fisheries
- Agriculture
- Mining
- Tourism
- Pulp & Paper
- Shipbuilding
- Food processing

Policy Variables

- Technology
- Scale
- Exports
- Infrastructure
- Value-added
- Product processes
- Marketing
- Bank financing

Sectors

- Traditional sectors (marine/agriculture)
- Breakout R&D, e.g., medical, pharmaceutical, agribusiness, nutraceuticals
- Digital World
  - E-commerce
  - E-education
  - E-health
  - E-government

Policy Variables

- R&D funding
- Business-university linkages
- Quality graduate schools
- Quality education
- Access to capital
- Research clusters
- Telecommunications
  - Infrastructure
- Labour Force
- Tax Environment
- Capital Markets
- Quality Advisory Services
  - Legal
  - Accounting
  - Engineering

3.4 The Celtic Tiger: Lessons for Atlantic Canada

In searching for models of new economy growth, perhaps no jurisdiction has received as much attention as Ireland, a country with many parallels, historical affinities, and emigration links with Atlantic Canada. Ireland is an important case study in the economic development of a small jurisdiction–but it is not unique. In this era of globalization, policy-makers, economists, and media commentators are coming to recognize an interesting phenomenon: it is small, open economies which display the truly high levels of growth. Ireland, Iceland, Finland, Norway, Singapore, Costa Rica, and Chile all offer insights and lessons for Atlantic Canada. But what they collectively show is the need for vision, policy consistency, long-term horizons and a focus by all stakeholders on the central issues of education and technology.

Ireland, like the Atlantic region, has long been an exporter of people–as many as 70 million Irish descendants live outside the homeland. The reason is straightforward–for generations, the country's economy lagged behind most of its European neighbours. The Irish have been caught in a cruel web of well-intentioned but fundamentally disastrous economic and industrial policies such as high tariffs and domestic import substitution, and an inclination to dwell on the history of victimization, reinforced by a rich mother lode of song, poetry, and myths. Then, in the mid-1980s, this history of despair and out-migration gave way, through political leadership, to a powerful set of forces that turned the country around. Ireland has not only reversed the brain drain, it is now a country that radiates the confidence and optimism of a people fully embracing the global economy–and it leads the growth charts of Europe. Why?

It is tempting to assess the Irish experience and cherry-pick the lessons for other jurisdictions like Atlantic Canada. But care must be taken in doing this–despite apparent similarities, many factors are different. The lessons from Ireland are real, but they are not simple.

Ireland's entry into the European Community was an unambiguous outreach to the global world –a historic going beyond the centuries of political duelling with Britain. Young Irish people embraced the European model with enthusiasm. The government approach was equally radical, a mix of government framework policies and business initiatives around technology, training and trade to put Ireland into the heart of Europe as well as the global economy. While Britain equivocated on the European Community, Ireland joined it without reservation, moving into a leadership role in many of its institutions.

Ireland also moved to capture the advantages of technological change–not in manufacturing, but in services, especially in the back office functions of data processing, call centres and customer marketing. Ireland now has high speed Internet access to major cities around the world via its e-hub financial services centre in Dublin for e-commerce–complementing other growth sectors like biotechnology, software development and financial services. This infrastructure builds on and complements the country's key strength, its young people and their desire to learn and succeed, and to speak foreign languages.

Throughout Europe, and increasingly around the world, young Irish people are learning and working in universities, research agencies, factories, and hotels, absorbing technologies, languages and the ways of other cultures and societies. In so doing, they are building a first-class work force, as at home in Boston, Tokyo or Munich as in Cork or Galway. Government recruiters scour the world–including Atlantic Canada–in search of skilled workers to come to Ireland, with particular emphasis on descendants of Irish emigrants–bringing them back home.

As Kenichi Ohmae has written, "...in a single decade, Ireland managed to leapfrog 150 years of industrial development and move into the networked society without the conventional industrial development problems of pollution and labour unrest."

Behind Ireland's turnaround are a few simple home truths.

- First, true success is not transplanted from "away," but grown and nurtured at home, with a combination of policies and programs that reinforce the growth cycle, as shown in Exhibit 5. The clear starting point is education and human resources. Like Japan after 1945, and the Asian tigers more recently, education in all its forms–primary, secondary, community colleges, technical training, university, graduate schools, and lifetime learning–must be the real engine of development. Today, there are one million Irish people in full-time education–over one-quarter of the country's population.

- Second, Ireland's entry into the European Community gave the Emerald Isle huge regional development funds–some $25 billion–for strategic investments such as roads, urban renewal, universities, airports, and IT infrastructure. Moreover, the EU's Common Agricultural Policy, with its subsidies to farmers, broke the dependency cycle of young people staying to work on unproductive farms, sunset manufacturing, or remaining idly unemployed in urban centres.

- Third, Ireland shifted from its closed, protectionist approaches of the past to macro economic policies that provided a virtuous cycle of reinforcing strengths–cutting debt burdens through expenditure control rather than tax increases; greater transparency in spending plans and wage restraint; and a corporate tax regime accompanied by serious ending of monopolized sectors such as airlines, telecoms, and utilities.

In short, as shown in Exhibit 5, the Irish government, working closely with domestic stakeholders and the European Community, became much more strategic around the macro policy framework, while unleashing the capacity of workers and companies, both domestic and foreign, to exploit new opportunities in global markets, especially the USA. Other factors also played important roles–from the peace process in Northern Ireland to the presence of major IT firms like Nortel, Microsoft and Intel. With the presence of such significant foreign investors, the Irish government worked with the country's universities and research networks to promote the development of indigenous small businesses to serve as contractors and suppliers to the large multinationals.

The results have been explosive: rising tax revenues, net in-migration, sustained investment and productivity improvements, unprecedented employment growth, and income levels rivalling or surpassing that of Britain. Perhaps most importantly, Ireland's blend of fiscal rectitude and free market economies, boldly welded together with creative strategic investments in infrastructure and education, changed the dynamics of the country in the area that is particularly difficult to manage–attitudes. The dependency cycle was broken and today, Ireland is a society ready to take on the world against all comers.

Exhibit 5
Explaining the Irish Model

Education Policy	Quality Primary/Secondary Education European Languages and Co-op Programs Integrated University System
European Community	Subsidies for Farmers Focused Infrastructure (Telecommunications) Open Immigration Policies
Industrial Policy	Management Skills Development International Trade Marketing, Trade
Fiscal Policy	Fiscal Prudence Low Corporate Tax Rate: 12.5%
Management/Labour	National Partnerships for Wage Moderation Labour Adjustment Flexibility
Investment Policy	Develop Critical Mass (E-Hub) Embrace Technology Attract Foreign Companies

Atlantic Canada itself is a case study of a quiet transition to the new economy. It is building a new economy in profound ways–its own New Atlantic Revolution–uprooting old assumptions, aware of past deficiencies but building on new growth opportunities, and developing truly home-grown solutions to address the new economy. In big projects like infrastructure and energy, in transforming old sectors like forestry, oil refining, shipbuilding and food processing with new state-of-the-art plants, the region is investing in the new, science-based technologies and processes that can dramatically increase employment and wealth creation. Will those investments be realized to the full? Can the "Irish miracle" happen in Atlantic Canada? This paper now turns to an overview of the national environment for change, and an examination of Atlantic Canada's capacity to change.

"For too long, economic prosperity in Newfoundland and Labrador has been a carrot on a string–close enough to see, but always slightly beyond reach. Times are changing."
– Hon. Paul Dicks, former Minister of Finance, Newfoundland

4.0 ATLANTIC CANADA: CHALLENGES AND CAPACITIES

4.1 THE NATIONAL CONTEXT

One perspective on the economic history of the Maritimes holds that the region was in a golden era of growth and prosperity at the time of Confederation, and the Confederation bargain in 1867 launched a lengthy era of decline. While this view may exaggerate the realities of history, it can certainly be argued that the economic structures and patterns of the past have limited Atlantic Canada's capacity and motivation to be a world-beater, to build a truly entrepreneurial culture, with competitive companies ready to take on the national market and indeed the world. Moreover, the heavy reliance of the past on the resource-based economy and the public sector has created structural weaknesses in the economy–weaknesses that governments at both levels have long worked to offset through a net of supports for individuals and businesses.

These programs and supports have brought benefits to individuals and firms–but they have come at a cost to the regional economy and society. In Atlantic Canada's Confederation bargain, there have been three underlying features of the region's fiscal and economic arrangements with the rest of Canada, often overlooked in the complex mix of bargaining for federal resources and largesse, and the wider scheme of equalization payments to the region.

- With a few notable exceptions, Atlantic Canada has tended to support federal initiatives, not just in the economic domain, but also in the areas of social, constitutional, and foreign policy.

- Despite decades of effort, and the evolution of a complex array of structures and programs, federal and provincial governments have only managed, rather than overcome, the Atlantic provinces' marginal status in Confederation. While gains have been achieved in some areas, such as reducing income inequalities, disparities have persisted or even widened in others, such as innovation activity and funding. Has the existence of a safety net for individuals and businesses dampened their spirit of enterprise, self-reliance, and risk-taking?

- The differentials in wealth and opportunity between the region and the rest of Canada has led to an ongoing drain of people and capital.

Now, the forces described in the previous section create the possibility of a very different future for Atlantic Canada–a future of self-determination, prosperity, and full participation in Canada on an equal footing. The game is shifting from the old economy to the transformation of our traditional sectors and the emergence of new wealth-creating sectors. The playing field is expanding from the domestic market to the global market. And the rules of the game are changing, driven by the forces of globalization and deregulation. These factors are also bringing about fundamental changes in the Canadian political climate and in the national attitude towards the Confederation bargain. It is imperative for Atlantic Canada to seize the positive from these changing circumstances.

Canada's other regions face a rising tide of voter disenchantment with the Atlantic Canada subsidy model, not so much because voters resent Atlantic Canada, but more because they perceive their own prosperity to be visibly less than their counterparts in the USA. Interviews conducted in Atlantic Canada and across the country indicate that this divide is growing. Perceptions outside the region are often outdated or inaccurate. Actual levels of federal dependency are perceived to be far higher than they really are, and there is little recognition of the dramatic reductions in net federal transfers to the region over the past two decades, or awareness of the level of less visible subsidies to other regions of Canada. The region is seen as over-governed notwithstanding the evidence of cost-effective, high-quality governance. The fact that the region leads the nation in cooperation and harmonization is not widely known.

Canada itself is undergoing major changes in the political landscape. Ontario traditionally dominated the national economy, providing financial support to the "have-not" provinces while selling them its value-added products. But globalization, free trade, public policy and political shifts have weakened Ontario's national perspective, threatening Atlantic Canada's traditional dependence on external financial transfers. Continued unrest in Western Canada is spilling over to Ontario, a province where the booming auto industry and pockets of high technology have masked underlying industrial problems. Unemployment in Northern Ontario exceeds Atlantic Canada's. NAFTA-driven structural adjustment in manufacturing is far from complete. Mining and forestry are subject to the peaks and slumps of the commodity sector, and substantial investments are needed in the province's ageing infrastructure. Toronto's financial sector is threatened by global competition, and Toronto's national position as the centre of media and communications is under pressure. Ontario taxpayers are not in a benevolent mood towards the rest of Canada, least of all the Atlantic region. In short, Ontario, not Ottawa, is the new financial nemesis for Atlantic Canada.

These trends mean that Atlantic Canada faces a policy environment that has changed considerably from the post-war consensus–changed even from the separatist threat from Quebec starting anew in the 1970s. Home-grown solutions have moved to the top of the Atlantic agenda, suggesting that new approaches and skills are required to build the region's future. Sustained economic growth cannot be taken for granted in a competitive, global economy. The knowledge economy requires that all of the sectors of the economy are fully engaged and working in unison. Regional cooperation provides the framework and impetus to achieving that goal.

Atlantic Canada's experience in the old economy was in community-based fisheries, shipbuilding, agriculture, and forestry, with some specialized pursuits like fox ranching in the early twentieth century. With the exception of shipbuilding, none of these industries ever broke out of the "staples"–the simple export of unprocessed products, with no real competitive advantage as a world-beater in global markets.

In the past, Atlantic Canada's economic development has been shaped by three categories of firms.

- **Cyclical** players riding the tide of short-term booms–from wooden ships in the nineteenth century, fox ranching before the First World War, and fish plants in the last century. Golf courses, some call centres, and tourist facilities are the new manifestation of these old cyclical players–characterized by limited technology, temporary investments, and low value-added.

- **Quasi-monopolists**, public or private, serving local markets, usually within a protected, regulated environment. Prominent examples include liquor boards, cable operators, electrical utilities, universities, telecoms, and transport companies.

- **Local branches** of national and international firms and organizations–basically local service providers to the Atlantic region, often in specialized sectors or distribution areas.

Traditional sectors based on the land and sea, and the firms which process their products, have been the mainstay of employment for a century and more. These sectors have dominated government policy federally and provincially, decade after decade. From steel to shipbuilding, tobacco harvesting to the fisheries, much of public policy has been aimed at maintaining jobs and incomes. Public spending and investment in two crucial areas–income support and infrastructure–have been the central assumptions of policy-makers for decades.

In some ways, perhaps, Atlantic Canada reflects too much history and not enough economics–and too much emphasis on the thought that external forces are at the centre of the region's lower state of economic development and wealth creation. The real question is, can Atlantic Canada now turn history on its head and make the leap into the new economy? What factors are holding it back, and what are its strengths, in pursuing that goal?

4.2 Weaknesses

Even a brief look at Atlantic Canada's industrial development highlights the gap between best practices–institutional, corporate, and individual–and current approaches in the region. Markets, technologies, and customer needs are changing so quickly and so fundamentally that a purely provincial or even regional orientation no longer suffices in many areas. Consider four benchmarks of success in the global economy: exports; technology; value-added; and financing. How does Atlantic Canada stand up? Is the public structure of government attuned to this new environment?

4.2.1 Exports

In a world of globalization, exports are not a last resort, they are a first imperative–an immediate benchmark of real consumer acceptance and competitiveness. Atlantic Canada's largest exporters–fish companies like FPI and Clearwater; frozen food processors like McCain's –and many smaller companies, export not only very high levels of total sales but also sell to a wide range of export markets, to Europe, the USA, Japan and elsewhere. For example, CARIS, a Fredericton-based supplier of geographic information systems and software, now exports to 70 countries.

Overall, however, Atlantic Canada's exporters remain too few in numbers, too focused on the North American market, and too restricted to a narrow range of products. Nova Scotia, perhaps Atlantic Canada's most diversified province, remains an overwhelming exporter of tires, fish and pulp and paper. Moreover, the majority of firms do zero exporting, even to their neighbouring provinces. Despite the successes described in the previous section, the Atlantic region, as a whole, still has some distance to go to build a vibrant export culture throughout the economy.

Throughout the region, new opportunities are opening up, with increasing demand in export markets for knowledge, services, technology, and health care. How can the region accelerate its exports, to neighbouring provinces, to New England, and beyond? Furthermore, how can it diversify into new sectors and tap into new markets? How do non-exporting sectors like education, health, government services, and many areas of small business, get on the export ladder of success?

Team Canada missions are one model. The Atlantic Canada premiers have initiated cooperative trade missions already—for instance to New England in 1999 and 2000—but more needs to be done to strengthen this critical mass. Also, trade missions can reinforce other initiatives, in strengthening education and cultural links, promoting overseas co-op student programs, and widening the circle of scientific and technology alliances.

4.2.2 TECHNOLOGY

A key feature of today's business environment is the emergence of disruptive technologies. Innovations such as digital technology, the Internet, wireless and just-in-time production have so fundamentally changed the business model for organizations that they are making the old approaches obsolete. The fundamental danger is to ignore how globalization, new knowledge, and market needs constantly move the technological frontier, forcing continuing, rising levels of innovation.

Perhaps no area illustrates Atlantic Canada's vulnerability to global forces as does the weak state of technology funding. Canada itself lags most of the industrialized world in research funding as a percent of total GNP at 1.6 percent, compared to 2.3 percent in Germany, 2.6 percent in the USA, 2.8 percent in Japan or closer to home, 2.0 percent in Ontario. But as shown in Exhibit 6, Atlantic Canada's innovation gap is even more serious.

Some pockets of strength have been created over the years, largely through public investment. The Bedford Institute of Oceanography has become the centrepiece of Halifax's world-renowned marine sciences cluster. Federal research labs were the main building blocks of New Brunswick's aquaculture industry. Prince Edward Island has a cluster of life sciences facilities and institutions in the federal, provincial, and university sectors, who are working together on a number of fronts. Nonetheless, levels of innovation, and investment are well below the region's share of national totals, as shown in Exhibit 6. Only in the case of the National Research Council's IRAP program does the region obtain more than its share of projects and expenditures. The recent effort by the Maritime Provinces Higher Education Commission to describe and analyse this gap has created a valuable information base and inter-university linkages for strategies to enhance the region's share and level of innovation funding. Recent announcements regarding the Atlantic Investment Partnership, with its supports for innovation, and the National Research Council, represent a further step in the right direction, but they need to be backed by strong action plans to ensure that the region closes the gap, in the context of rising innovation levels and investment across Canada.

Exhibit 6
Atlantic Canada's Innovation Funding Gap

Program	Date	Atlantic Canada Projects: #	%	Atlantic Canada Investments: $	%
Technology Partnerships [1]	30/06/99	4	4.9%	$ 9,900,000	1.2%
NRC/IRAP	1993-99	1,737	14.5%	$28,300,000	12.1%
IRAP/Third Party Claims	11/99			$ 3,010,000	11.0%
Canadian Space Agency	1993-99	160	7.1%	$44,200,000	5.2%
NSERC	1993-99	808 [1]	9.3%	$97,600,000	6.8%
Centres of Excellence	1994-99	237 [1]	2.1%	$ 1,800,000	1.4%
CDA Foundation for Innovation	08/99			$15,200,000	3.7%

Note 1: Researchers

Source: UPEI, Federal Reports

Atlantic Canada's technology base is a function of three factors–R&D undertaken in the region, technology purchased or licensed on the global market, and technology imported through direct foreign investment. Today, these innovations both transfer and provide opportunities to all organizations, public sector and private sector alike. Successful jurisdictions use a blend of all three, but are coming to recognize the critical importance of an indigenous innovation base. For example, telecommunications and computers, advanced materials, and the biotechnology industry all stem directly from university research labs, scholarly research output, and vibrant classroom teaching. Successful jurisdictions also help maximize the technology edge by a well-equipped labour force fully attuned to global skills requirements.

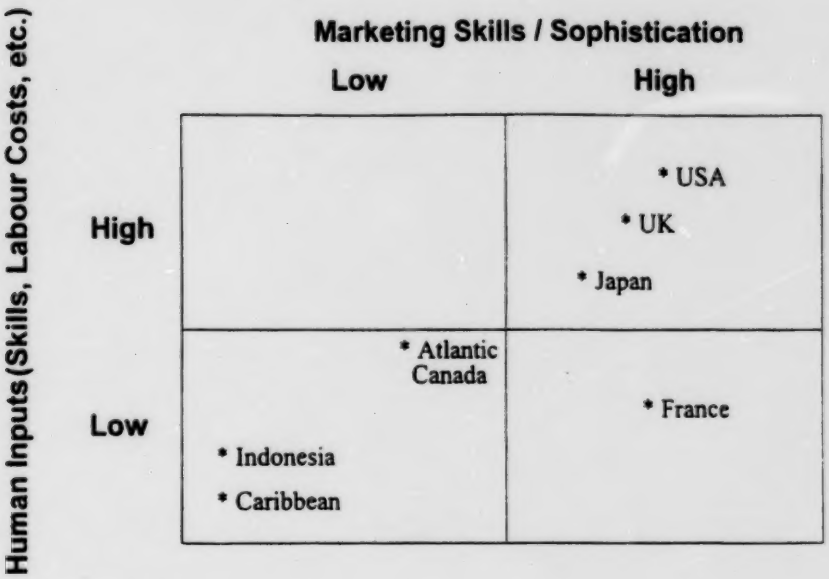
To ignore the innovation challenge is to commit the entire Atlantic region to the whims of yesterday's assumptions. At the other extreme, to boldly seize this challenge holds the potential to put a small, regional economy at the head of the growth curve, at once building sustainable opportunities for jobs and wealth creation.

4.2.3 VALUE-ADDED

Companies, countries, and regional economies vary tremendously in their capacity to move up the value-added chain, i.e., making more and more value using fewer and fewer inputs. That is a fundamental feature of the wealth creation process. The basic discontinuities arising from globalization pose great challenges, and great opportunities–in market demand issues, in economic growth issues, and customer needs.

Ongoing product and process innovation are fundamental to expanding value-added economic activity. That stream of innovations is in turn directly related to technological advances developed and nurtured in universities and other research facilities, as called for above. An educated, highly-skilled labour force is obviously also key in a globalized world, but so too, are clever marketing and management, as shown in Exhibit 7.

Exhibit 7
Human/Marketing Skills: Atlantic Canada's Challenge



In the case of information technology, where Atlantic Canada has some specific strengths, the region faces dangers from a squeeze into the low value-added, commodity end of the business. After all, globalization means that imports from distant lands are a direct competitor. Call centres, for example, can be low-end or high-end, depending on the level of data processing, enabling technologies (e.g., remote processing), software, and language needs. To give but one example, Toronto recently won a global call centre investment requiring global software, advanced telecommunications access, and capacity to provide services in 57 languages–a skills cluster that only three other cities could compete on (London, Paris, and New York). Call centres, a relatively new phenomenon in the global world of digital communications, illustrate the need for not only a technology base, but also for education programs and immigration policies to ensure the languages to support them.

4.2.4 FINANCING

Atlantic Canada is a net exporter of capital. Virtually the entire pool of personal savings is managed via RRSPs and pension funds outside the region. The capital invested in the equity markets flows to Toronto, Calgary, and to some extent, New York. Outside the familiar territory of utilities, food processing, and distribution, too few Atlantic companies use the capital markets. Until recently, Atlantic Canada's entrepreneurs either left the region to access equity capital, or avoided the public markets and thereby restrained their growth opportunities. Venture capital financing is scarce, and generally high-cost, and venture capital investment is the lowest of any region in the country. The initiative to establish ACF Equity Atlantic, Inc., an Atlantic Canada ventures firm, has had mixed results, as discussed further later in this report.

Financing is a "chicken and egg" situation for Atlantic Canada. Ideas and ventures chase capital to greener pastures, i.e., outside the region, and scarce capital chases ideas and ventures where they occur, in the richer, high population areas. At this time, Atlantic Canada still needs to build the critical mass and strategic clusters to fully make the shift into a development area less reliant on traditional government subsidy programs, and more like the incubator model of networks and alliances with an unambiguous global character and growth attributes.

Increasing access to venture capital, in fact, can hardly be a holdback for Atlantic Canada, as the Canadian venture capital industry has exploded with growth and ever deepening sectoral expertise. The financial markets are pushing billions of dollars in venture capital funds into quality private sector start-ups. Governments around the world have tightened fiscal policy and indeed, have achieved large surpluses. The new vision of public policy is to create the proper environment to attract those global pools of capital. That must become Atlantic Canada's new priority–to attract those global pools of investment capital. In some ways, the region is working on this challenge, as indicated by the creation of ACF Equity, but more needs to be done.

There is now a widespread recognition that public stock markets are the most efficient primary vehicles to raise equity capital and allocate resources across the economy, i.e., from savers to investors. Atlantic Canada must become engaged in that process. Successful public markets thrive on confidence, entrepreneurial drive, regulatory simplicity, and corporate transparency. Canada's capital markets are in a state of flux, as indicated by corporate governance and disclosure problems at the Toronto Stock Exchange, the Nasdaq initiative in Montreal, and the growing national importance of the Canadian Venture Exchange (CDNX) in Calgary.

Increasingly, the Atlantic Canadian economy cannot be isolated from those trends. Thriving sectors like IT, energy, entertainment, health care, biotechnology, and education, to cite a few, need access to equity pools to foster growth. Even the universities and health complexes like the Queen Elizabeth II Health Sciences Centre in Halifax, will be sources of intellectual capital, ready for commercial development. Publicly listed companies will be common in Atlantic Canada, not the exception.

The four Atlantic provinces each have regulatory approaches that are a legacy from another era and are all working at cross-purposes. The actual bureaucratic level of ignorance about the nature of capital markets is almost total, reinforced by conflicts between finance ministries which deal with policy, and justice ministries which deal with regulation and legislation. Ideally, there would be a single agency in charge of securities regulation for Atlantic Canada. This body would have the critical mass of expertise–in funding, in regulation, in enforcement–to deal with public market issues. This body would also work closely with the venture capital industry, business schools, industry associations, and the financial industry and investment dealers at large, to foster public market concepts, raising equity, regulatory processes (especially protection of shareholders), and corporate governance and enforcement.

A single Atlantic agency would be a dramatic initiative to show the investment industry that the Atlantic region is serious about the wealth creation process. In fact, the actual preferred route in the short term might be less bold, requiring, for example, a common legislative framework for the four Atlantic provinces. The idea would be to have a process where the approval mechanism in one province leads to automatic approvals in the other three jurisdictions, with absolutely minimal bureaucracy, cost, or conflicting regulations.

4.2.5 External Shocks

These long-standing structural weaknesses have been compounded, during the past decade, by two major external shocks. The massive structural dislocation of the Atlantic fisheries hit the region hard, and the severe federal budget cuts of the past decade, have also had a disproportionate impact on Atlantic Canada, limited as the region is in "headquarter" functions such as line departments, crown corporations, and federal agencies. Today, the worst of these adjustments is over. The value of the fisheries now exceeds the total value of the traditional cod fishery prior to the decimation of the stocks, and new growth poles, such as Hibernia, are emerging, while the fiscal situation of all governments has improved dramatically.

What has been the impact of these endemic structural weaknesses and more recent external shocks? Pessimists inside and outside the region see no absence of negative indicators. Employment growth trails national levels, and cyclical resource industries remain the major engines of employment and growth. As a result, disparities in unemployment between the region and much of the rest of Canada–and the resulting personal dependency on income transfers such as unemployment insurance–remain too high. Consequently, incomes continue to lag behind the national average, although the gap has narrowed.

Productivity gains trail the national average–itself low by international standards. Indeed, an Industry Canada study ranking productivity levels and the standard of living of ten Canadian provinces and 50 US states, placed the four Atlantic provinces last in average standard of living (1995-1997) and the three Maritime provinces last in productivity. Newfoundland finished 53rd out of 60 in productivity, up a few places, mostly due to Hibernia. Moreover, projections for Canada's future productivity growth over the next decade show an increase in output per worker from 1-1.5 percent for the past decade to 2-2.5 percent over the next decade. If Atlantic Canada is to simply keep pace with the rest of Canada, it will have to post dramatic gains in productivity. If it hopes to close the productivity gap with the rest of Canada, and even more so, with the rest of the continent, it will have to accelerate them even further.

4.3 Strengths

This catalogue of issues has been around a long time. Despite variations and individual successes, these basic structural weaknesses of Atlantic Canada have proven stubbornly persistent. But now, in a changing global economy, the outlook can hardly be less negative. Atlantic Canada has four of the largest engineering investments in the entire country–the fixed link to PEI, the Irving's new, state-of-the-art refinery in New Brunswick, the Sable Island gas pipeline system, and the Hibernia project off Newfoundland. The new Sable Island energy project promises to change the fundamental equation of the region's energy needs. Properly managed, Atlantic Canada stands on the threshold of being an energy powerhouse, not just in oil and gas, but also, hydro, nuclear and coal-fired resources as well as alternative energy sources including solar, wind, and micro-generating plants.

The region has a critical mass of large, nationally successful companies that are a major force in Canada and abroad—Sobeys, McCain's, FPI, Irving, CHC Helicopters, the Jacques Whitford Group, Aliant—to cite a few. Sectors once seen as low growth and old economy such as power utilities (Fortis in Newfoundland and Emera in Nova Scotia) are evolving into breakout strategies in Atlantic Canada and beyond–to the USA, to the Caribbean, and elsewhere,

perhaps even to Ontario. There are new, strong regional companies in sectors as diverse as pharmaceuticals, films, nutraceuticals, software, advanced car ferry transport, consulting engineering, spatial information software, and telecommunications. The information, telecommunications, and Internet-related software sectors are growing at double-digit rates. Given the space to grow, innovate, export, and build their business models on global opportunities, these sectors can reshape the future of Atlantic Canada.

In short, Atlantic Canada is slowly but surely making the adjustment to a new, global economy. Attitudes are changing. Atlantic companies, universities and entrepreneurs have developed a new, home-grown optimism based on real initiatives. John Ibbitson, of the *Globe and Mail*, puts the point as follows.

> *The truth is that the rest of Canada can never give Atlantic Canada what it needs the most: the confidence to seize control of its own affairs, to husband and exploit its human as well as its natural resources, to set its own course. How far will it have advanced before the rest of Canada notices the East Coast's Quiet Revolution?*

The past weaknesses of Atlantic Canada can be seen, in a strategic sense, as now creating a future of opportunity for the region. With some exceptions, the Industrial Revolution of the nineteenth century largely by-passed Atlantic Canada, i.e., the large scale manufacturing of mass consumer goods, tied to vertically integrated firms and their large industrial unions. This industrial economy of the past century, from steel to textiles, shows the two faces of industrialization–a boom while it lasts, but a rust-belt legacy in the face of obsolescence–against competition, against technology, against new consumer needs.

Now, the old industrial model of growth and development is giving way to the knowledge revolution of the 21st century. What any growth region in the world needs in this new model–quality of life, environmentally-friendly surroundings, excellent education, superb infrastructure, state-of-the-art telecommunications in a borderless, digital world–Atlantic Canada has all of these in the making. Exhibit 8 below, depicts the changes that are now underway in the region. Geography no longer defines economic space. But knowledge and people do, and they are usually shaped by politics. Herein lies the challenge for today's and tomorrow's leaders–to create an environment that encourages and allows Atlantic Canadians to realize their potential to the fullest.

Exhibit 8
The Changing Face of the Atlantic Economy

Old Economy	New Economy	Emerging Economy
Primary:	*Aquaculture*	*Environmental Recycling*
Fishing		
Forestry	*Nutraceuticals*:	*Human and Animal Nutraceuticals*
Mining	Botanical	
Resource sector	Marine	*Research Centres*
Agriculture:	*Pharmaceuticals*	*Advanced Medical Delivery*
Potatoes		
Vegetables	*Software*	*Senior Citizens/Health Care*
Fruit		
Dairy	*Leisure & Entertainment*	*Internet Education*
Beef cattle		
	Call Centres	*Telemedicine*
Manufacturing:		
Processed foods	*Health Care*	*Marine*
Light manufacturing		
Heavy industry	*IT Convergence*	*E-Commerce*
Coal and steel		
Shipbuilding	*Third Party Logistics*	*Advanced Construction Design*
Services:	*Wireless Telephony*	*Micropower*
Transport		
Telecommunications		
Public services		
Construction		
Education		
Traditional tourism		
Retailing		

Atlantic Canada now has a fifth sector in addition to, and increasingly in lieu of, the four old economy sectors noted above–a sector of wealth-creating entrepreneurs who are ready to take on the world. They are the region's future. The Atlantic region is home to a growing number of entrepreneurs, many educated outside their home province, but drawn to the region for quality-of-life factors. A recent survey of Atlantic Canada CEOs indicates that an astounding 92 percent are optimistic about the region's future prospects.

A can-do entrepreneurial Atlantic culture is neither a remote possibility nor an academic pipe dream. Atlantic Canada can achieve an entrepreneurial culture because the roots are already there, in the templates of the region's history, the role models of a new generation of successful companies, and the successes of Atlantic Canada around the world. From artisans, music writers, scientists, and internationally-recognized athletes, to scores of innovative small businesses tackling global markets, Atlantic Canadians are rising to the opportunities of the global, digital world. Exporters are leading-edge barometers of these trends, but so too are any

number of initiatives by hospitals, community colleges, voluntary groups, and artistic organizations reaching out to enrich the region's economy and society.

The Atlantic entrepreneurial culture needs nourishing. To truly thrive, it needs open attitudes, bold leadership, strong role models, continuous education and learning, and reinforcement at every level. In this entrepreneurial culture, small business is the engine of job creation and wealth; however all sectors of society (academic, bureaucratic, religious, athletic, political, legal, professional, private business and media) have a role to play. An entrepreneurial culture will flourish when all the institutions of society–the political leadership to be sure–are moving together, and all the levers of society are mobilized to feed and nurture that central proposition. Young entrepreneurs will grow and develop when the proper incentive structure is truly in place–one that starts from a young age. Awards, recognition, scholarships, media attention, mentoring, business sponsorship of students are all initiatives that foster an entrepreneurial culture.

Provincial governments in Atlantic Canada have been getting the message. Governments have contained public spending, have reduced their reliance on transfer revenues, and are bringing taxes down. Nonetheless, some tax rates remain higher than in other regions of Canada, and governments must continue to emphasize a balance between the investments needed for growth and social well-being, and a competitive tax regime which supports wealth creation. More attention must be given to alternative models of economic development; for instance, a radical reordering of government priorities to acknowledge small business as the main source of income generation; or innovative public/private models of infrastructure development, including education, the Internet, or technology incubation, and measures to promote the creation and use of knowledge.

In the context of globalization, the need for regional cooperation has never been greater. The private sector recognizes this. In fact, in the past ten years, Atlantic Canada has witnessed increasing integration across a whole range of sectors and sectoral interests, from law firms to private companies, from business associations to voluntary organizations, as shown in Exhibit 9. Dozens of professional groups, trade associations, voluntary organizations, media outlets, educational groups, national business chains, cultural and academic bodies have come together to think and act around a cohesive Atlantic Canada perspective for their operations. It is growing and deepening, from sports to academe, the professional community to the private sector. This reality is neither widely understood nor appreciated outside Atlantic Canada.

Why is this happening? Why is a pan-Atlantic approach emerging in so many sectors? The answers vary, and there are important nuances. But the common threads are predictable and pragmatic–economies of scale, proximity to markets and customers, need for critical mass in skills/expertise, shared costs. What is especially interesting and quite revealing is that it is the private sector that has led the way, born of the simple necessity to cooperate to compete, or be taken over from outside, by bigger, more nimble players. The globalization of markets means global players are now in Atlantic Canada–Home Depot competing against the Irvings, Cisco and ATT against Aliant–to cite two examples.

Exhibit 9
The Changing Face of Atlantic Cooperation

Sector	Initiatives	Examples
Law firms	Mergers/alliances	Regional law firms
Engineering firms	Acquisitions/expansion	Agra, Inc.
National firms	Growth/expansion/integration	Canadian Tire, Loblaws
Atlantic firms	Growth, acquisitions	Northumberland Ferries, Sobeys
Mega projects	Regional procurement	Hibernia, Fixed Link, Sable Offshore
Utilities	Regional expansion	Fortis, NS Emera
Business associations	Pan-Atlantic organization	Chamber of Commerce, CFIB
Think tanks	Pan-Atlantic studies	AIMS, APEC
Telecommunications	Regional integration	Aliant
National firms from AC	National expansion	Sobeys, McCains
Government	Regional initiatives	Atlantic Lottery
Media	Regional magazines	Atlantic Progress
Cable TV	Regional integration	Shaw Cable
Academic	Regional institutions	Atlantic Vet College, NSAC

Source: Company Records

In the knowledge economy, where the need for close networks blurs the lines between the public and the private sectors, can the same issues of scale, critical mass, and quality be avoided in the governance structures of the Atlantic region? In the next decade, Atlantic provincial governments and their agencies–hospitals, schools, universities, community colleges, and civil service delivery systems–all face a simple strategic question: how can they help the region succeed in the global economy and create wealth for its citizens?

Will Atlantic Canada rise to the challenge? Is the preferred option that of the status quo–a mix of old-style politics and parochialism wedded to interesting but modest growth poles in the knowledge economy, where cooperation struggles against layers of government, rivalry across jurisdictions, and isolation among academe, business, and civil servants? Or is the preferred option a truly bold and dramatic shift to foster an Atlantic Canada made-at-home consensus towards an entrepreneurial, knowledge-rich economy creating wealth and opportunity? Will the four Atlantic governments become activist players in the new economy–in education, in intellectual property, in venture capital and securities, in management development, in fostering an entrepreneurial culture?

In a knowledge economy, Atlantic Canada's knowledge base and human capital potentially puts the region at the crossroads of global trends and opportunities. This strength beckons the New Atlantic Revolution.

"I'm not telling you it's time to undo the union of Confederation. I'm telling you it's time to fix it. It's time for us to have a second look and develop a comprehensive plan."
– Craig Dobbin, CEO, CHC Helicopters

5.0 Review of Existing Cooperation

As described earlier in this report, the Maritime provinces have a long and wide-ranging history of cooperative endeavour and joint activity resulting in a complex and diverse array of cooperative institutions, infrastructure, processes, and activities, which fall between complete autonomy, on the one hand, and political union, on the other.

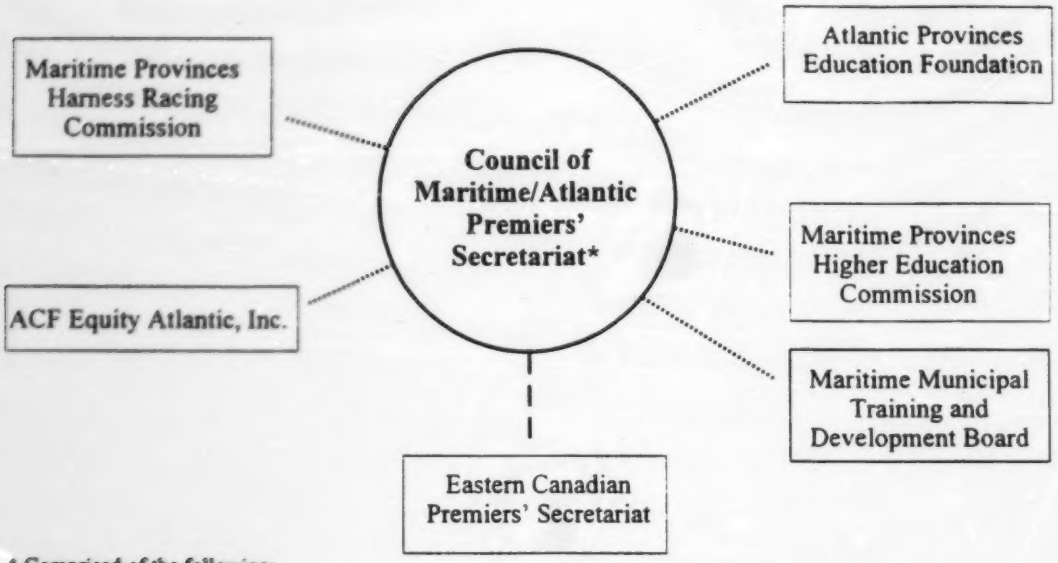
Atlantic Canadian cooperation is a newer concept and one less widely accepted. The Atlantic provinces are neither homogeneous nor uniform. The differences within the region are expressed in the extreme by this comment from a prominent Newfoundlander.

> *There is no such thing as Atlantic Canada. We are four politically different areas, and Newfoundland is the most different–we have more in common with Quebec than we do with Nova Scotia.*

In Newfoundland and elsewhere, this view is far from unique. But is it true? The Atlantic region shares not only a common geography, but also a number of regional institutions and endeavours that go far beyond any linkages that exist with provinces outside the region. The region has a complex political model of cooperation that few outsiders understand–one of forging a network of administrative and political cooperation for the entire region in a host of areas where cooperation makes sense for program delivery and optimal policy outcomes. The establishment of the Council of Atlantic Premiers in May of 2000 creates new opportunities for cooperation.

Exhibit 10 depicts the overall structures of Maritime and Atlantic cooperation, while Exhibit 11 summarizes the resources supporting those structures.

Exhibit 10
Administrative Structure of Atlantic Cooperation


Maritime Provinces Harness Racing Commission
ACF Equity Atlantic, Inc.
Council of Maritime/Atlantic Premiers' Secretariat*
Eastern Canadian Premiers' Secretariat
Atlantic Provinces Education Foundation
Maritime Provinces Higher Education Commission
Maritime Municipal Training and Development Board

* Comprised of the following:
  - Atlantic Community College Consortium
  - Atlantic Procurement Coordinating Committee
  - Maritime Geomatics

Exhibit 11
Atlantic Cooperation Budget

Agency	Budget	Age	FTEs
Secretariat	$ 1,100,963	29	16.6
MPEF/APEF	574,718	19	5.9*
ECP Secretariat	110,589	26	1.3*
MPHEC	1,111,187	26	15
MMTDB	187,017	25	2
MPHRC	407,992	6	2
Total	**$ 3,492,466**	**n/a**	**35.6**

* APEF and ECP staff are counted within the Secretariat complement of 16.6 staff.

This study has found that this pragmatic model of cooperation has served the region well–but now the forces of globalization, technology, and innovation require a dramatically strengthened strategic approach to wealth creation. The effectiveness of Atlantic cooperation can be assessed against several benchmarks.

- How does Atlantic cooperation improve the growth prospects of the region, i.e., by creating wealth and thus tax revenues for the four provinces? This question speaks to the need for basic solutions to the region's low productivity performance relative to the rest of North America.

- On a related issue, does a cooperative approach best position Atlantic Canada's voice in federal-provincial deliberations on issues such as the cutbacks in federal transfers over the past decade?

- Is cooperation assisting Atlantic Canada in reducing its costs of government and thus the tax burden to citizens, while at the same time, providing equal or superior program delivery? Where can a cooperation/integration agenda lead to superior delivery at the same or reduced costs? E-government is the obvious starting point, with the Council taking on the policy lead.

- Is Atlantic Canada cooperating in the right areas, with enough vigour and vision to make a difference? How does the Atlantic region rank against the other jurisdictions? As shown in Exhibit 12 below, there is scope to do far better.

In fact, despite the achievements of the past, Atlantic Canada cooperation, policy integration, and coordination, are currently under severe strain. Notwithstanding the aura of prosperity in the region, and spillovers of wealth creation from the recent North American boom, Atlantic Canada faces a number of storm clouds. Prosperity is largely urban-based, and, except in the energy sector, is white-collar and new-economy. In the "old" seasonal, resource-based economy, staples like agriculture and the traditional fisheries are mature, even threatened, sectors. Unemployment is stubbornly high, workers are older and less well-educated, and the capital stock is ageing fast. Agriculture in particular, faces unprecedented challenges–unprofitable crops, low prices, new technologies, environmental pressures, trade disputes, and urbanization.

Exhibit 12
Atlantic Canada's Competitive Standing

	Ireland	Costa Rica	Atlantic Canada	Ottawa/Nepean
Core Needs				
Skilled workforce	1	2	2	2
Community Colleges	2	3	3	1
World class R&D institutions	2	3	3	2
Access to venture capital	1	3	3	1
Energy infrastructure	2	2	2	2
Important Criteria				
Tax rates	1	1	2	2
Telecommunications	2	2	2	1
General				
R&D Culture	1	2	3	1
Government technology priority	1	1	3	2
Public procurement	2	2	3	1
Totals	**15**	**21**	**26**	**15**

Source: Ranking based on information and data acquired from interviews conducted over course of study.
Note: Low Score = Favourable; High Score = Unfavourable

A clear "gap" is opening up between Atlantic Canada's private sector on the one hand, and political and public officials on the other, on the need for and urgency of regional cooperation and integration. The private sector, often threatened by the need to respond to national and global trends, sees collaboration, scale, critical mass, alliances, and state-of-the-art technology, as fundamental tools to remain competitive. In response to these factors, the private sector is creating new regional linkages throughout a range of industries and professions. They see the public sector, province by province, living in a world of costly institutional silos, where the status quo is widely acceptable, Atlantic cooperation is a catchphrase, and maintenance of abundant schools, universities, airports, hospitals, and government programs, is good local politics.

Exhibit 13 outlines the priorities of the region's members of the Canadian Federation of Independent Business for enhanced Atlantic Canadian cooperation.

Exhibit 13
Small Business Survey of Atlantic Cooperation Proposals, CFIB

	NS	NF	NB	PEI
Single payment agency for medicare	60.9%	43.2%	51.8%	43.4%
Purchasing agency	42.6%	27.9%	38.1%	28.3%
Transportation policy, regulations and planning	68.4%	58.6%	59.5%	52.2%
School curriculum development	57.2%	54.1%	48.6%	56.6%
Skills training curriculum development at community colleges	63.3%	55.0%	57.9%	55.8%
Cooperation in external economic development promotions	55.9%	48.6%	52.2%	49.6%
Liquor license boards	47.9%	39.6%	42.1%	37.2%
Workers' compensation boards	66.0%	70.3%	53.8%	53.1%
Occupational health and safety authorities	66.0%	60.4%	56.3%	45.1%
Labour law administration	53.5%	45.0%	48.2%	45.1%
University/college education	48.9%	55.9%	45.7%	50.4%
Vocational and technical training	57.7%	51.4%	47.4%	52.2%
Marketing of local products and services	45.5%	41.4%	44.5%	45.1%
Provision of sophisticated medical services	56.6%	59.5%	51.8%	56.6%
Other	6.9%	5.4%	5.7%	8.8%
Number of Respondents:	*404*	*119*	*283*	*119*

Source: CFIB - Provincial Survey - September 2000

Even more worrying, a series of disputes and uncoordinated initiatives among the provinces threaten to undermine past and existing cooperation initiatives–interprovincial trade disputes, notably in dairy; offshore boundary disagreements in the energy field; duplication, and lack of coordination in health care and hospital investments; and uncoordinated and minimalist cooperation strategies in science and technology investments across the region.

These trends cannot be allowed to continue. The worldwide forces of change set out earlier in this report call out for coordinated, strategic, regional action. To recap, those forces include:

- globalization, with its open models for trade, information, and capital flows;
- new and changing technologies;
- radically new and changing business models; and
- enormous new opportunities.

Within Canada, as well, new trends are about to place severe demands on Atlantic Canada. The new century holds many conflicting challenges–neo-conservative calls for more *laissez-faire* and limited government; radical decentralization of Ottawa's spending powers and responsibilities; dramatic Canadian integration of economic, industrial, and scientific sectors with the USA and Mexico; accelerated demands for quality delivery of public services in cost-effective ways; and unprecedented change owing to globalization, technology, demographics, and public expectations.

Atlantic Canada is not immune to these cross currents. Slowly but inexorably the private sector is making the adjustments. Too much of government, however, has continued to operate within the framework of the old economy. This situation is slowing down the adjustment process and soaking up scarce resources. As other jurisdictions like Ireland have shown, a shift from this traditional approach to dramatic breakout strategies opens a vista of new economy opportunities for the region. These opportunities are massive: for every one percent reduction in Atlantic Canada's unemployment, there is a direct injection of $300 million, compared to a subtraction from the real economy of about half that amount, say $150 million. In today's world, bold initiatives are often the low-risk alternative.

To realize those opportunities, the public and education sectors must now become proactive on the big issues and take the big steps. The Council of Atlantic Premiers is now the catalyst for that action. The Council provides an organized capacity for the region to reach ends together that the provinces may not be able to achieve individually. The benefits sought from cooperation include:

- achieving higher quality and greater efficiency in the public and private sectors through sharing costs, effecting a larger scale of operations, and harmonizing government policies and practices;

- reaching a critical mass of resources to do something otherwise impossible or impractical; and

- having greater influence over external forces and players that affect our provinces, particularly the federal government.

However, the Council has no specific policy mandate, nor does it have any internal capacity or budget to initiate ongoing studies of major policy issues facing Atlantic Canada as a region. As shown in Exhibit 11, the actual resource commitment in dollars and people is relatively small, in the context of the multi-billion dollar budgets of the Atlantic provinces. In many respects, the Council is a collection of provincial agendas and interests, focusing its energies largely on areas of consensus among the constituent stakeholders.

The centrepiece is the Halifax-based Council Secretariat. with 16 employees. The Secretariat serves the premiers in meeting their goals for regional cooperation, coordinates activities of the Council, and provides a central service to provincial ministers and officials in the operation and coordination of selected regional programs and projects, among other roles. Within this framework, the Secretariat houses a number of small but important initiatives, largely of a functional nature, such as insurance harmonization, curriculum development coordination, and joint procurement carried out by the APEF. In some cases, external funding is

sourced–provincial line department budgets or Canadian Heritage, for instance, for French-language instructional resources.

The Atlantic Provinces Education Foundation has played a leadership role in developing quality indicators for the four provinces and in designing a common core curriculum for the region. This work preceded and contributed to a similar national program by the Council of Ministers of Education, Canada, working with Statistics Canada, to design education performance standards for the nation as a whole. As in some other areas of harmonization and deregulation, national endeavours are following upon the earlier efforts of the region.

The Foundation performs other functions as well, including professional development of teachers and administrators, and some aspects of procurement, e.g., school buses. However, its capacity to do more and to raise its profile in the region is constrained by limited resources. In some respects, the Foundation illustrates the Council's dilemma–mounting important initiatives to reinforce Atlantic cooperation, but limited ability to innovate and have a dramatic impact beyond the provincial policy framework.

A similar conclusion can be made about ACF Equity Atlantic, Inc., the venture capital initiative of the Council. At the time of its inception, the region lacked a vehicle for venture capital. Today, labour-sponsored funds, the Business Development Bank, the chartered banks, incubator firms, and even foreign venture firms all have a window on the region. Some critics argue that ACF, as a "government" vehicle, should assess opportunities with a provincial perspective. Others argue that an Atlantic-wide focus clearly must be the mandate. Still others argue that ACF Equity provides a convenient excuse for purely private venture firms and the chartered banks to lessen their efforts to incubate and foster start-ups in the region.

Consider the factors underlying the venture capital issue. Is the problem one of an unambiguous shortage of venture capital in the region? Or does the region lack the skilled human resources–consultants, lawyers, bureaucrats, entrepreneurs, academics, university deans and presidents, journalists and bankers– who understand venture capital, the role of capital markets, the linkages between traditional bank financing and patient equity capital? If it is the second problem, the answer is for ACF Equity to shift its mandate, becoming a real catalyst to create venture capital expertise in the region, to attract national and international venture firms to the region, and to build a network of data and information to promote indigenous technologies and competitive strengths.

In assessing the Foundation and ACF Equity, three points become clear.

- The Council, through the premiers, can truly take a leadership role in initiating important policy goals–further reducing trade barriers, raising educational standards, developing venture capital and the like.

- However, the Council can and should put a time cap on initiatives, with an explicit bias towards a sunset clause.

- Finally, the Council's initiatives should include a major educational role, involving not just governments, but other stakeholders as well.

The starting point for a strategic approach to regional cooperation is the Council Secretariat. The operative word is "Secretariat." Is it to be a passive paper shuffler? Or is it to be closer to the French meaning of the word, a strategic centre for policy initiatives? Can it deal with the big issues facing Atlantic Canada over the next ten years, and the growth opportunities for the region, as discussed in the following section?

These issues and opportunities suggest three new administrative initiatives for the Council to rejuvenate and strategically focus its existing structures and resources:

- a greatly strengthened policy role for the Council, coordinated at the centre by intergovernmental affairs personnel and Council staff, often using outsourcing contracts for specific strategic issues but operating through mandates from the premiers;

- a separate, reorganized, administrative unit to manage ongoing ad hoc initiatives, secretarial functions for ministerial and premiers' meetings, and the annual New England Governors/Eastern Canadian Premiers' Conference; and

- a reconstituted Education and Learning Commission, designing and executing specific programs and policies in lifelong education, IT coordination, and initiatives for state-of-the-art learning technologies and learning ware for both the region and for export.

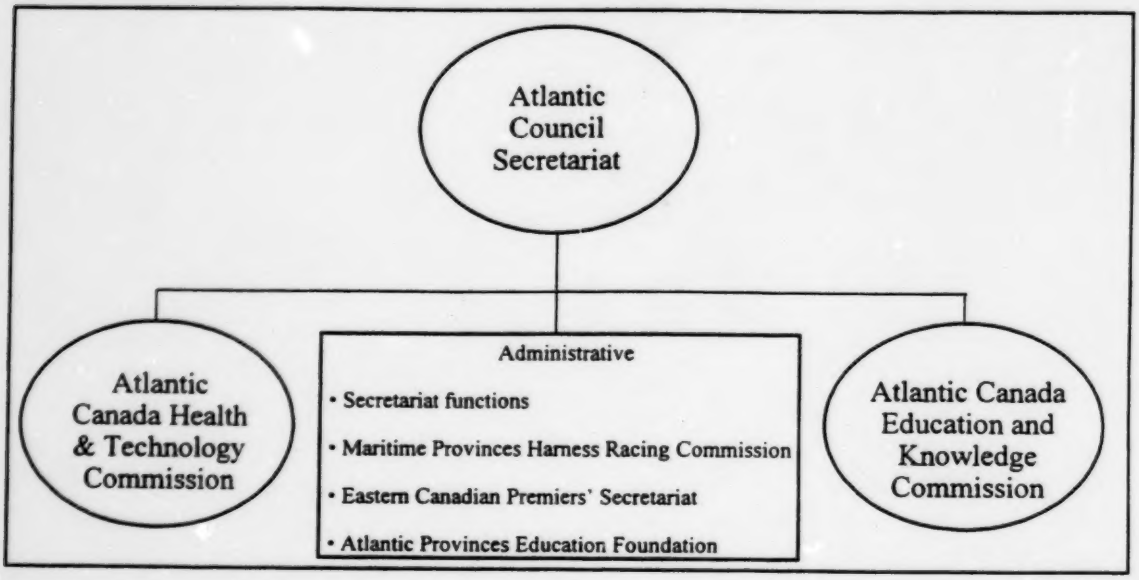
The proposed new structure is outlined in Exhibit 14. The Education and Learning Commission would be constituted from a radically reorganized Maritime Provinces Higher Education Commission. Its primary mandate would be to oversee and advise on all aspects of post-secondary education: universities, colleges, and lifelong learning initiatives, including distance learning and e-education.

The new Commission should have an explicit role in defining and advising governments on university/business research partnerships, program assessments of specific university departments lacking critical mass, and developments in educational technology, including Internet-based delivery. It should also advise governments on the need for improved incentives for funding foreign student recruitment, business/education partnerships, and tuition levels. Perhaps most importantly, the Commission would enhance, through improved policy research and advice, Atlantic Canada's influence and capacity to leverage national policy decisions in all aspects of higher education and science and technology.

The Commission would not act as a regional monolith. To be sensitive to the unique provincial character of education, it would have province-specific advisory groups to identify policy research needs and areas of cooperation among fewer than the four provinces, and to respond to provincial needs in the context of regional collaboration. In particular, Nova Scotia's distinctive needs–a number of institutions, the role of Dalhousie in medical education, and the complex mix of graduate and undergraduate funding–would have to be taken into account.

The proposed structure also includes a new Atlantic Canada Health and Technology Commission, to be further discussed in the following chapter. These measures will provide a strong institutional foundation for the bold new initiatives outlined next.

Exhibit 14
Proposed New Council of Atlantic Premiers


Atlantic Council Secretariat
Atlantic Canada Health & Technology Commission
Administrative
• Secretariat functions
• Maritime Provinces Harness Racing Commission
• Eastern Canadian Premiers' Secretariat
• Atlantic Provinces Education Foundation
Atlantic Canada Education and Knowledge Commission

"An information revolution is sweeping across educational institutions...This remarkable fact threatens the traditional power base of school systems and universities, bringing fierce competition as the old order disintegrates and a new, fast-paced order takes shape."

– Kelvin K. Ogilvie, President and Vice-Chancellor,
Acadia University

6.0 A VISION OF A NEW ATLANTIC CANADA

The newly-created Council of Atlantic Premiers offers a fresh catalyst to reshape the entire region for the next generation. Cynics both inside and outside the region claim that Atlantic Canada is too wedded to old-style pork barrel politics, too dependent on net federal transfers, and too immersed in distorting incentives. Outside the region, this stereotype of Atlantic Canada has undermined its capacity to attract investment and businesses, while weakening its ability to influence policy at the national level. But is the stereotype accurate?

Research for this study has identified four key Atlantic strengths:

- a labour force that is among the most highly educated and motivated of any in Canada, reinforced by the network of community colleges and universities;
- an enormous potential to be an energy powerhouse, equal to or surpassing Alberta in energy output and exports, but more diversified than oil and gas;
- a knowledge-based infrastructure of medical, marine, and bioresource talent and institutions that is leading-edge world-wide–Halifax's QEII alone is Canada's fourth largest health complex and by some measures, the country's most successful cardiovascular center; and
- a new class of entrepreneurs–educated, export-oriented, open to the new globalization culture, and aware that speed, skilled workers, and innovation are the hallmarks of success.

In the past dozen years, the true face of Atlantic Canada has changed in fundamental ways. Some of Canada's industrial firms–Irving, Clearwater, FPI, Highliner, Fortis, Sobeys, Fitzgerald & Snow, McCain's–are leading-edge role models for the thousands of new startups that are sprouting up around the region. This is the hidden face of Atlantic Canada's new economy, potentially a growing attraction for venture capitalists, the base for new research partnerships with hospitals, research centres, and universities. But the economic potential of Atlantic Canada can be unleashed only if governments themselves (federal and provincial) can mobilize the political will to react and adjust to the region's globalization response. As noted, within the region, the professional class–lawyers, accountants, engineers, consultants, private educators and venture capitalists–have merged, integrated, formed partnerships, forged alliances, all to gain critical mass, develop specialization and achieve economies of scale in back-office operations. Can the public sector adjust accordingly?

Consider the profiles of new and emerging sectors in Atlantic Canada. There are scores of small firms in each province, building on new technologies, products and services, as shown in

Exhibit 8 earlier in this report. Typically, they are led by individual entrepreneurs, many female, and many rely on exports to survive. Dealing with governments is a concern for these firms, with regard to time, in red tape, and taxes. Their priorities include high-quality schooling, better access to research funding, lower cost electricity, affordable and accessible high-speed data transmission. These needs are real. In other words, there will be increasing pressure on governments in Atlantic Canada to change the policy mix, and to lower the real costs of government by rationalizing services, by making government service delivery more in line with the new economy model.

At least in terms of number of firms, the private sector in Atlantic Canada is tilting towards the new economy, as shown in Exhibit 15.

Exhibit 15
Profile of Atlantic Canada's Top Companies

Sectors	Old Economy (1)	Old / New (2)	New Economy (3)
Advanced Manufacturing		1	
Aerospace/Defense		1	
Aquaculture/Seafoods		7	
Arts & Culture			2
Automotive Sales	14		
Architectural/Engineering			4
Business/Professional		1	
Environmental engineering		1	1
Financial services		3	
Construction/Products		6	
Communications			1
Consumer/Business		2	
Education			2
Food/Beverages		12	
IT/Telecommunications			5
Medical/Healthcare			1
Industrial products		1	
Insurance		6	
Manufacturing		3	
Mining/Energy		3	
Pulp and paper		2	
Recreation/Leisure		1	
Retail/Wholesale		10	
Real estate	3		
Tourism/Travel		2	
Transport	6		
Totals	***23***	***62***	***16***

Notes:
(1) Low R&D, Low IT, Low Enabling Technologies
(2) Moderate IT and Enabling Technologies
(3) High R&D, Skills and IT

Source: Adopted from *Atlantic Progress*, October 2000 Issue

But more than in most areas of Canada, the public sector is the largest portion of the total economy–educational institutions, the health sector, public utilities, crown corporations, the civil service. In the knowledge economy, these sectors can no longer be seen as separate from the wealth creation process of the region. The research and consultations for this study identified a wealth of opportunities for a new growth agenda for Atlantic Canada, as set out in Exhibit 16.

Exhibit 16
Growth Ideas for a New Atlantic Canada

1. Atlantic Governments and Public Policy	a) Strengthen the equalization formula b) Radically redefine EI and labour markets c) World-quality e-government d) Integrate energy transmission and delivery e) Supports for industry: reduction of trade barriers, technology, training
2. Capital Markets	a) Strengthen venture capital market to improve access to capital for start-ups b) Build public companies c) Integrate Immigrant Investor Program d) Atlantic Canada/CDNX online listing e) Increase strategic management of pension funds
3. Private Sector	a) Strengthen export culture via trade missions b) Develop technology clusters around critical mass c) Develop state-of-the-art telecommunications infrastructure d) Establish supportive co-op education programs
4. Health Care Sector	a) Develop integrated research networks b) Advance telemedicine c) Establish e-procurement organization
5. Elementary/Secondary Education	a) Swedish model of Internet: full connectivity b) Internet-based e-learning
6. Post-Secondary Education	a) Integrated application/registration/grades system b) Atlantic Library Network c) Atlantic community college system d) Atlantic Management School e) R&D alliances with private sector f) Entrepreneurial incubators
7. Think Tanks	a) Annual Atlantic Canada Competitiveness Report b) Annual Atlantic Canada Business Summit

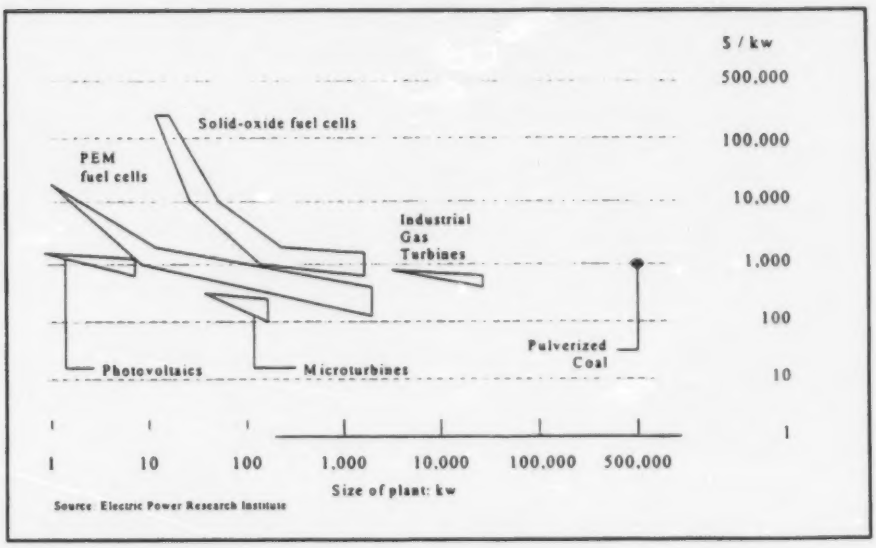
This chapter offers a vision of how Atlantic Canada's governments can lead the way to create a new and invigorated Atlantic Canada. It examines five areas where Atlantic Canada needs dramatic new economy institutions–power utilities, e-government, higher education, professional management development, and health care.

6.1 Power Utilities

It is a curiosity and a paradox that Atlantic Canada's four power utilities are largely monopolistic, each provincially regulated, and each with different drivers–water in Newfoundland and Labrador, coal (and now natural gas) in Nova Scotia, oil-fired in Prince Edward Island, and mostly nuclear in New Brunswick. Fortis, in Newfoundland, is the owner and operator of Maritime Electric in PEI. Emera, parent firm of Nova Scotia Power, is now privately owned and publicly listed. In today's global world, with the looming possibility of a deregulated North American energy market, one thing is certain: Atlantic Canada's four power utilities are ripe for dramatic change, from within or without.

At the same time, there are other factors that provide enormous industrial opportunities for the energy sector in Atlantic Canada. Power generation and transmission, although it lacks the sexiness of sectors like software and telecommunications, is actually much bigger and globalization and deregulation around the world are opening up immense new exporting opportunities. Second, as in telecoms, new micropower technologies–fuel cells, wind and solar power, clean gas turbines–have the potential to revolutionize power generation and transmission. Not only are these new technologies superior in environmental standards, some are now becoming competitive, both in capital costs and increasingly in operating costs per kW, as indicated in Exhibit 17. The monies and efforts now devoted to these new technologies are now at take-off point, about where changes in telecommunications were a decade ago.

Exhibit 17
Electrical Generating Costs
(Projected Year 2000–2015)



Source: Electric Power Research Institute

Atlantic Canada already has the growing advantages of oil and gas deposits coming on stream, with the attendant changes in distribution. But these developments should not divert attention from the region's potential in electrical power–itself a crucial policy variable for software, telecommunications and semiconductor firms, as California's botched electricity deregulation approach has recently demonstrated.

In the future, what this means for Atlantic Canada is a clear policy bias–away from monopoly and towards open markets; away from provincial perspectives and towards a regional focus; away from the traditional, capital-intensive power grids and towards new technology; and away from local transmission and towards the world's export markets.

These energy issues illustrate a wider set of issues for Atlantic Canada. The first is the need for a critical mass of skills and expertise, because technology is changing the energy game so fast. There is a need for more policy coordination across the region, because duplication soaks up scarce financial resources. There is also a need for public-private partnerships to deal with questions of scale, and policy issues linking science, environmental questions, privatization, trade, and finance.

Atlantic Canada now has the chance to develop a world-scale energy cluster–not just because of the region's diverse resources and technologies, but because there is a growing critical mass of competing firms, scientific and engineering personnel, and specialized infrastructure. The public power utilities can take the lead, because they have size and financial clout. They must break out of their traditional utility culture, by developing research alliances with educational institutions for research and training, becoming aggressive exporters, and developing technology partnerships in alternative energy systems. Electricity and telecommunications are not identical, but the merger of the four provincial telephone utilities offers a potential model for pooling of interests, technology synergies and spin-off companies, and expansion into new export markets.

6.2 The Internet and Government

In this cyber age, companies all over the world are striving to define their business missions, to become focused, and to streamline their operations through outsourcing. The private sector's best-managed, globally successful firms are designing business models that turn all the old assumptions on their heads. Private sector firms like Toyota and Wal-mart are building their business models on globally efficient supply chains, slashing costs and speeding up order time deliveries, improving quality and cutting delivery cycle times to the limits.

Can governments follow suit? Complexity, bureaucracy, a maze of regulations, differences between levels of government, perceived differences in accountability–these factors have long been seen as barriers to fundamental change in how governments function. Yet governments are the classic example of where the Internet and e-commerce can have an impact–sheer scale, simplicity of central procurement, speed of transactions. The Internet offers the possibility to reinvent government in bold and dramatic ways. Particular opportunities exist in two areas: procurement and improved service delivery.

In the United States, the Defence Department has set up DOD e-mall, while the General Service Administration has created GSA Advantage–a central vehicle where other agencies purchase goods and services online. The numbers are staggering. The US federal government spends $200 billion on procurement. The combined state governments spend about $450 billion. Even savings of 5 percent could offer benefits in the order of $30 billion–the equivalent to an annual tax cut of $32.5 billion plus.

In Canada, meanwhile, the federal government has established the MERX tender system–Canada's biggest B2B system, handling billions of federal and provincial tenders a year. E-procurement across many public sectors, e.g., Canada's 250 hospitals, or Ontario's universities, still has far to go. But e-procurement illustrates how, if properly cultivated, Atlantic Canada could save substantial dollars directly–the estimates for Canada's hospitals alone are in the order of a billion dollars. Equally, e-procurement initiatives by Atlantic Canada's governments offer the opportunity to build and strengthen local businesses, by utilizing their enabling technologies, building world-class expertise, and launching export of products and services markets around the world.

Nova Scotia has identified e-procurement as a central element in its e-government strategy, seeing it as an important tool for preparing the Nova Scotian business community for dealing with the global market. For this reason, the province is well ahead of the federal government in e-procurement. Nova Scotia now has no-cost online tender documents and online bidding (the first in Canada). Desktop purchasing will be introduced this year.

Governments in Atlantic Canada have instituted the Atlantic Procurement Coordinating Committee, a group of officials charged with the responsibility to implement the Atlantic Procurement Agreement, an initiative to open provincial procurement tenders to Atlantic-wide bidding. Critics would argue that, like many Atlantic initiatives, the good intention of the procurement initiative substantially trails the potential. The Committee faces the challenge of overcoming impediments at all levels–in attitudes, in the process, in the inevitable inertia. Perhaps more importantly, procurement is embedded in provincial bureaucracies that perceive e-procurement as a "technical" function, rather than a basic building block of a major e-government strategy, which would connect the public sector to the private sector. Within the region, e-government is often viewed as a "technical" function divorced from senior government policy initiatives. There is no mandate to elevate e-government into a government e-marketplace allowing departments to advertise their needs and suppliers to bid. Yet the engine of jobs growth, the small business sector, is increasingly aware of the high costs of bureaucratic inefficiencies, and the failure to link government to business's value chain. The clamour for administrative cost savings and rationalization is only going to increase as small business is faced with general, Canada-wide initiatives in e-government.

Beyond the benefits of cost savings and economic development, technology holds promise of far greater quality in service delivery. In the past, transactions like registering cars, replacing passports, tendering contracts, or disposing of used equipment were monopoly functions, carried out in isolation from each other, consuming the time and resources of both the service providers and their customers. Now, governments are beginning to achieve the enormous increases in service quality possible through integrated, technology-based service delivery. From Service New Brunswick to Access PEI and Service Nova Scotia to E-Service in Newfoundland, to Atlantic Canada On-Line, the process of reinventing government is now well underway. The federal government is playing a supportive role through its Connecting

Canadians agenda, as outlined in Exhibit 18, and has jump-started the "Government Online" initiative with an $80 million investment.

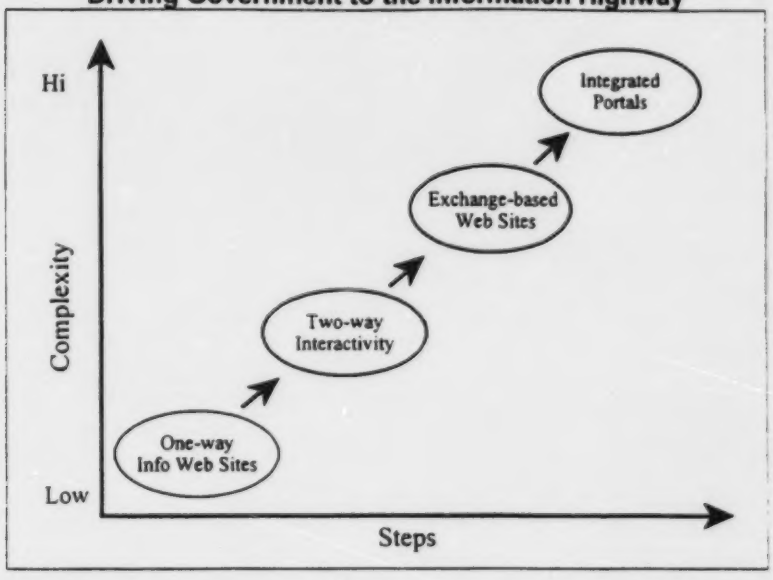
Exhibit 18
Ottawa's Connecting Canadians Agenda

1. Government Online – government services
2. Canada Online – schools, libraries, communities
3. Smart Communities
4. Canada Content Online – Heritage Canada
5. Private Sector E-Commerce
6. Canada to the World – Model of Technology

Atlantic Canada should seize these opportunities and be the prototype for e-government in North America–not just public administration in all its myriad forms, but also universities and schools, agencies and specialized service providers. Exhibit 19 sets out the stages of this evolution to e-government–an evolution that Atlantic Canada should aim to fully achieve.

To be truly successful in this endeavour, governments should reverse the standard dictum of "don't contract out anything except what is unnecessary." Rather, government should adopt the reverse approach: contract out everything except that which is necessary. An Atlantic e-government strategy should start with one simple edict–set minimum contracting out procurement targets for the six classes of government operations: schools, universities, community colleges, hospitals, crown corporations, and line departments. The evidence from both public jurisdictions and the private sector indicates that such an initiative would provide Atlantic Canada with cost savings for taxpayers, superior service and quality to customers, and enhanced capacity among new and existing firms to export their products and services to other governments and public agencies.

Exhibit 19
Driving Government to the Information Highway



6.3 HIGHER EDUCATION

Assume Atlantic Canada is a company listed on a major stock exchange. Would it be a buy, a hold, or a sell? Why? How would the CEO promote the stock? Tons of processed food? Barrels of oil sold? Megawatts of electricity produced? Miles of highway paved? Tons of landed fish stocks? In the old economy, these kinds of statistics might have been important. They translated into jobs, wealth and taxes. The problem is that in today's global world, they cannot give Atlantic Canada a real competitive advantage–even within Canada. To be sure, they are not irrelevant, but they are no longer central to the wealth creation process.

The new indicators in a global, cyber economy are the number of megabytes per capita, the percentage of workers with post-secondary credentials, and the percentage of national income spent on quality education. Indicators such as these are the real measure of both the knowledge society and the knowledge worker. Where does Atlantic Canada stand?

Atlantic Canada's challenge is to lead the country in developing a world-class education system, across all stages or transition points, from high school, to community colleges and universities, to the labour force and lifetime learning. An important first step in addressing the education challenges was the establishment of the Atlantic Provinces Education Foundation, and its program to develop ongoing, comparable education indicators across the region–a vital tool for assessing overall accountability and performance, and meeting the education challenge of the digital age. APEF's other achievements have been noted in Section 2.

These roles are vitally important. They are reflected in two key indicators–the percentage of students who are completing high school, and the education profile of the workforce in Atlantic Canada. While the region compares favourably today to other Canadian provinces in terms of

high school retention, the lower educational participation of the past, coupled with the impacts of out-migration, have left the region with a workforce substantially less likely to have gone beyond high school than in other regions of Canada. High school completion is vital, but it is not enough–our youth must be prepared and motivated to continue their education beyond high school and indeed all their lives. Our educational systems must also be able to meet those needs.

Improving the education system goes well beyond the "supply side" in terms of government funding for training programs, educational institutions, and teachers, although these are important. The "demand side" must also be addressed. Students need incentives and motivation to continue their studies. The employment insurance program must be scrutinized to ensure that it does not constitute a disincentive for youth to continue their education. Some commentators argue that the employment insurance program should require a high threshold, minimum employment period, say 12 months, before any payments are provided to first-time recipients. Others would go even further with direct incentives–for example, no driver's licences issued to young people who drop out of school before 18. These, of course, are controversial perspectives. What is at issue is the need for significant educational improvements. In short, a society interested in first-class education must take first-class measures to achieve results.

Moreover, while there are generic issues facing education across the Atlantic region, there are major differences by province, in the number of institutions, the policy demands of rural and urban areas, and the availability and use of new technologies, such as distance learning, to deliver programs.

6.3.1 Community Colleges

Given the close link between education and the job market, perhaps the most central issue is the quality and profile of the community college system. National surveys show that Canada is not short of graduates with specialized, technical skills–rather, the gap is in the need to combine the technical skills with the specific demands of the world of work. Around the world, community colleges are filling this gap. They teach the core "thinking" skills that are key to using precise technical skills, but have the flexibility to meet the specialized demands of the marketplace, especially for small- and medium-sized firms. They also have a key role to play as all of Canada faces a critical shortage of tradespeople.

In the new economy, lifelong learning and training, even for professionals, are not luxuries–they are necessities. Jurisdictions from California to Ontario are recognizing that the old distinctions between universities and community colleges are no longer valid–indeed, in some respects, it might be argued that community colleges are most innovative and willing to use technology in ever-more creative ways (Acadia and Memorial are clear exceptions among Atlantic universities in embracing technology). Job skills are also central to flexibility and innovation in technologies, products, and industrial processes. Estimates vary but this so-called "innovation" gap goes a long way to explain Canada's growing skills shortages–the precise area where community colleges must play a significant and pro-active role. Yet in terms of enrolments (Exhibit 20) and public spending, Atlantic Canada has a distinct bias towards universities. Nova Scotia alone has 83 percent of its higher education capacity in the university sector–only 17 percent in community colleges, compared to a national average of 56-44 percent.

Exhibit 20
Ratio of University to Community College Enrolments in Atlantic Canada, Ontario, Quebec and Canada

(Full Time, 1997–1998)

	University Students (#)	Community College Students (#)	Ratio
NFLD	13115	5704	2.3
PEI	2452	1275	1.92
NS	30077	6956	4.32
NB	18503	4808	3.85
PQ	131074	166858	0.79
ON	227153	141259	1.61
ALTA	52824	29366	1.8
CAN	573099	395326	1.45

Source: Statistics Canada, Education Indicators in Canada, 1999

However, three challenges stand before the community college system. First, the advent of distance learning and information technology in the classroom, especially for rural outreach programs, requires huge investments in information technology and state-of-the-art systems. Second, the increasing specialization of applied subjects requires a critical mass of expert teachers, not just for course delivery but for curriculum and course design. Having just a few experts in a subject erodes quality. Third, community colleges are increasingly faced with severe demands of lifetime learning, to meet skill shortages as employees attempt to cope with exploding technological change and global marketing. Currently, almost 40 percent of Canadian adults have difficulty reading anything more than simple text, with Atlantic Canada slightly below the national average.

Nova Scotia has reformed its community colleges to operate as a single system. New Brunswick has a similar approach, while Prince Edward Island has long been served by a single college. Newfoundland's 18-campus college system has been a pioneer in distance learning; its courses for aboriginal training are a model for the entire country. To be truly world scale, and to meet the explosive demands and opportunities offered by the Internet and technology-based learning systems, Atlantic Canada should go beyond these achievements to establish an integrated Atlantic community college system. The integration would be less in the "front office" delivery system per se, i.e., classroom-by-classroom, but in the "back office" functions–IT systems, course design, learning technologies, teacher upgrading, and enhanced facilities. Michigan, for example, has adopted a state-wide system for similar reasons, confining its offerings to only 32 programs, with the courses in the first year reciprocally recognized and accepted by the universities.

An integrated Atlantic community college model would offer three direct advantages:

- true economies of scale for the very best technological infrastructure, comparable to the best in the world;
- a critical mass of quality professional teachers to produce and deliver programs in strategic sectors necessary to produce skills for the region; and
- the capacity to market quality, innovative programs in a variety of teaching technologies around the world.

The Atlantic Community Colleges Consortium, operating since 1998, is a forum for curriculum development, labour market changes, and professional development, but the actual level of cooperation is minimal. There could be vastly greater potential in exporting training services, cooperation in specialized sectoral areas (e.g., energy and forestry), and areas of severe shortages such as health care personnel. A particular priority should be a pooling of resources for French-language course delivery.

6.3.2 UNIVERSITIES

Atlantic Canada's 17 degree-granting universities–one in Newfoundland, one in Prince Edward Island, four in New Brunswick, and eleven in Nova Scotia–cut above their weight nationally. Although the region accounts for less than 8 percent of the population, it has 12 percent of Canada's post-secondary faculty, and 9.5 percent of Canada's university students. Newfoundland actually ranks first in provincial operating grants ($8,260 for 1999-2000). New Brunswick is fourth, trailing only Manitoba and British Columbia. In spending on university grants per capita, Newfoundland ranks first, New Brunswick second, and Nova Scotia fourth ($220, $203, and $168.36 respectively, compared to $138.72 in Ontario).

On these measures, i.e., direct government funding, Atlantic Canada's universities score well indeed. However, there are other measures where the picture is less rosy. In overall research funding, the Atlantic universities are not only low relative to the rest of Canada, but they are disproportionately reliant on federal research dollars, which actually decreased by about 5 percent from 1989 to1995. Moreover, the region only accounts for 6.2 percent of graduate students.

Also, in the area of university commercialization of research, i.e., transferring publicly funded research into usable technological innovation and economic development, Atlantic Canada universities are woefully weak. For example, in a survey of intellectual property commercialization among 81 Canadian institutions, a Statistics Canada study found that just 12 universities accounted for 77 percent of new invention reports, 68 percent of new patent applications, and 74 percent of active commercial licences. None of the 12 universities were from Atlantic Canada.

In a knowledge economy, this state of the Atlantic universities cannot continue. The primary reason that might explain this situation is that too many institutions are doing too many things with no critical mass. The universities operate as massive, well-funded silos, each with a wide range of programs and degree offerings but little aspiration to be regionally top flight, let alone

nationally or internationally. Few are especially innovative, even in integrated web sites, to deal with student issues like registration, course selection or payment systems.

Fortunately, the universities are moving into a more cooperative model of operation, following work by the Maritime Provinces Higher Education Commission to define the innovation gap and to promote a concerted approach to overcoming this gap. This effort is, however, of relatively recent origin, and is fuelled by the lure of new federal research dollars. Notwithstanding the rationale, the universities can and must be new, proactive players in the Atlantic region–teaching innovation, building university/business innovation partnerships, fostering research and teaching collaboration to gain critical mass in specialized areas, and building lifelong learning models to meet demographic shifts. In those endeavours, they must become close partners with the community college system.

As noted, the Maritime Provinces Higher Education Commission has begun to address the research deficiency needs, but needs to be much more pro-active and Atlantic-wide in scope. The Commission, in the new model proposed in this report, and led by the premiers, needs to impose on the universities a new administrative framework for coordination: more active recruiting of foreign students with full liberalization of all tuition and fees; aggressive commercialization of research in partnership with foreign and domestic companies; and ambitious and uncompromising goals for joint procurement of all institutions of higher learning. In administration, there should be an integrated Atlantic Canadian system, for university and college application, registration, grades, and course payment; and an innovative approach to government-supported matched fundraising for all non-government donations. Ontario's initiatives in these areas are a model for Atlantic Canada's higher education system.

6.4 Management Development

A recurring theme in productivity studies of Atlantic Canada is the low rate of technological innovation. There is a myriad of explanations from seasonality to small size, from government disincentives to over-concentration on the resource industries. In fact, Atlantic Canada's innovation gap may be as much a management development problem as anything else. Management training and development is a huge, global business. There are almost 2,000 corporate universities, whose explicit mandates are to train and educate managers. Even Ottawa has set up a public service training centre. Atlantic Canada should be making radical moves along these lines.

In this sense, the Atlantic academic community can, and should, take a bold initiative. It should create a world-class business school in Atlantic Canada. It would take time, it would be radical, and it would be controversial, but it could be done as an Atlantic regional project. It would be a signal both within the region and outside, that Atlantic Canada is serious about nurturing an Atlantic entrepreneurial culture.

Several schools on their own have particular strengths–UNB Saint John in e-commerce, Dalhousie in public management, University College of Cape Breton in accounting, and St. F.X., in community development. Memorial's interdisciplinary links with business and energy are a model for the region. Despite these strengths, at the present time, not a single Atlantic university is even on the radar screen of international rating agencies that rank business schools in North America and around the world. The reasons are depressingly obvious. No Atlantic school has critical mass of faculty in any subject area; the technology platform is not

state-of-the-art; there is limited research funding; student recruitment is local, limiting global networking potential; and most schools lack such initiatives as in-house small business incubation, international co-op programs, faculty-student research leading to publications, promotion of women in small business, and the like.

Such fragmentation in Atlantic Canada is the exact opposite of what the best business schools around the world are doing. This fragmentation is now a serious Atlantic Canada impediment to growth, affecting productivity, business startups, technology transfer, capital markets, and export promotion. If Stanford and Harvard, or Columbia and London Business School see the need for alliances and cooperative measures, in their global world, surely the same holds true for Atlantic business schools.

What should be done? There are four basic principles.

- The school should aspire to be world-class and a Canadian leader, measured in the *Financial Times* ranking of the top 75 global schools. Quality, critical mass, international networking, and state-of-the-art technology should be the driving forces of excellence. There should be no political constraints in any aspect of recruitment and student tuition levels, and professional mandates–except one of academic excellence. Significant fundraising and even naming of the school should be a priority, promoted around a high-quality advisory board.

- The school should be a virtual enterprise, involving existing management schools in the four provinces for both faculty and student recruiting, with Internet teaching being the norm, not the exception. A target of 50 percent of the students should be recruited from outside the region (half of whom should be from outside Canada). It should develop good linkages to computer science, engineering and public management departments, inside and outside the Atlantic region.

- The school should be self-funding and operated as a business, with the primary academic mission centred on entrepreneurship and international business. Specializations should include energy, health management, the voluntary sector and e-commerce. It should be truly innovative in case writing, in developing teaching materials for local use and export, in designing incubator models for business start-ups, and in consulting for local businesses. Co-op programs already in place should be expanded and made more international. There should, over time, be a multilingual flavour to the school, not just English and French, but also Spanish and Japanese.

- The Atlantic School of Management should aspire to form global alliances with the very best schools around the world, not just in North America. It should specifically reach out to like-minded and similar economies–in traditional sectors such as fisheries, agriculture, and forestry (e.g., Iceland, Norway, Ireland, the Caribbean, Japan and Korea). It should also reach out to new sectors like IT (e.g., Ireland, Finland and Germany), energy (Saudi Arabia, Mexico and China), and aquaculture and nutraceuticals (e.g., Chile and Argentina). Global networking for students and faculty alike are the new requirements of quality management education.

The Atlantic School of Management should be a virtual academy. Not all current business schools in the region might elect to participate. As a virtual school, there need not be

unproductive rivalry over physical location. Rather, some schools may develop or extend a critical mass in certain areas–Dalhousie in health management, UNB Saint John in e-commerce, UPEI in bioresources. New areas cry out for attention–Atlantic firms and capital markets, e-government management and telemedicine–to name a few.

Systemic barriers such as credential issues will pose barriers to such a proposition. Less tangible, but perhaps even more serious, are the attitudinal barriers to such a radical approach. The Atlantic premiers should put the issue on the table–and the academics' feet to the fire. Leadership or mediocrity?

6.5 Health Care

Health care is the number one issue on the minds of Canadians. Despite a decade of restraint, health budgets are huge and growing. Technology, while offering some health benefits, also is a massive cost driver. Looking ahead, demographic trends related to population ageing will place growing strains on the system. On a more positive note, health care offers major opportunities for knowledge-based economic development and skilled employment. The field of health research has seen enormous injections of research funds in recent years, yet the region lacks an overall policy framework governing such issues as the following.

- the proper levels of funding and research support for the region's two medical schools and teaching hospitals;
- the opportunities for commercialization of publicly funded medical research;
- an aggressive approach towards e-health and telemedicine to provide many aspects of simple diagnoses and medical routines;
- a balanced regional approach to deliver health care, with a view to shifting the balance from costly, high-end health complexes to alternative treatment centres; from specialty care centres to in-home care. Nova Scotia's recent initiatives could be a model for the entire region;
- a clearer and more transparent budgetary process to promote Atlantic health care cooperation, by ensuring that provinces recognize both the capital and operating costs of particular facilities; and
- a central advisory group to help develop Atlantic Canada's IT infrastructure in a cost-efficient manner, with the right mix of skills, infrastructure, and coordination of delivery–recognizing that, as in so many areas of government, IT expenditures are rising as the importance of databases, online data processing, and e-health become central to program delivery.

To address these needs and opportunities, premiers should give consideration to a new Atlantic Canada Health and Technology Commission with specific mandates in such areas as e-medicine, IT system procurement, technology commercialization, and health services education on a regional basis. The Atlantic Health and Technology Commission would also serve as the health advisory body for the entire region. It would be linked to the Council in the same way as the proposed Education Commission discussed in the previous section.

"No region of Canada has suffered more from the complex intersection of history, heritage, and myth than the Atlantic provinces."

- Margaret Conrad, Acadia University

7.0 CONCLUSIONS AND RECOMMENDATIONS

This study sets out a series of bold initiatives. Some will be very controversial. As a document, it is intended to provoke discussion and debate. It is also intended to be future-directed, towards a vision that Atlantic Canadians want to shape their future, and how the world-at-large is influencing Atlantic Canada. Globalization in all its forms is both a threatening future, but also one of immense opportunity. How the region responds to these forces will tell a great deal about how Atlantic Canada will respond and shape its future in the challenging years ahead.

In recent years, Atlantic Canada's four governments have embraced framework policies and programs to help nurture the region and to build on past efforts of cooperation. Certain initiatives are worth highlighting:

- balanced budgets and decreased taxation;
- strong support for education and training;
- overseas trade and export support through trade missions and Team Canada;
- healthcare rationalization and cost containment initiatives;
- support for federal research Centers of Excellence;
- activist support for R&D and new economy measures; and
- improved transportation and infrastructure measures.

Atlantic Canada's efforts receive little coverage in the national media, and stereotypes and unfounded myths give an unfair image in too many national opinion circles. Ottawa still maintains a "father knows best" attitude on critical levels–equalization, technology, and energy are three important examples. This study applauds these initiatives, but recognizes that more can and needs to be done, not just in policy initiatives, but in breaking down the zero-sum "I win, you lose" mentality so widely seen in the region, and in government.

It is in this sense that the Atlantic region itself must take steps to exploit the new opportunities that beckon, the initiatives that reinforce growth and prosperity, and quality investments that lead to higher productivity and living standards. Within Atlantic Canada, there is a widespread view that Atlantic cooperation is a pipe dream built around bad economics and faulty history. To others, Atlantic Canada's small size requires full union. This study rejects both views. It also rejects the perspective that government policy and government initiatives don't matter, or are purely negative. History does not support this view, nor do neo-conservative simplicities like low taxes and minimalist government involvement. Ireland's dramatic turnaround is not a strong case study for such a policy course.

The major recommendations of this report can be highlighted as follows:

1. Council of Atlantic Premiers: MPHEC

    1.1 Expand MPHEC to all Atlantic higher education, and integrate initiatives for university and community colleges, using provincial advisory bodies

1.2 Develop new initiatives for lifetime learning
1.3 Advise on Atlantic-wide funding formulas for institutions
1.4 Initiate policies and mechanisms for research commercialization
1.5 Institute a policy framework for intellectual property

2. Establish Atlantic Provinces Health and Technology Commission

2.1 Promote Atlantic-wide facilities planning
2.2 Advise on future funding formulas for operations, capital costs, and education
2.3 Develop policies governing medical technologies commercialization
2.4 Coordinate with educational groups on future manpower supply/demand and training needs
2.5 Initiate e-health initiatives on administrative back office and health records through IT cost containment, preferably through contracting out to the private sector

3. Higher Education Administration

3.1 Adopt Ontario model for registration, fees, and grade management
3.2 Develop aggressive system-wide procurement model
3.3 Advance Centers of Excellence programs for pan-Atlantic research cooperation
3.4 Promote overseas recruitment of foreign students, with high minimum targets per annum

4. Atlantic Community College System

4.1 Adopt integrated Atlantic-wide system
4.2 Rationalize course delivery by region and language
4.3 Develop aggressive distance learning course delivery models
4.4 Design an aggressive export model for course delivery and sales

5. E-government

5.1 Adopt aggressive e-government systems by province
5.2 Elevate e-government initiatives to Cabinet level
5.3 Expand e-government to transactional exchange levels
5.4 Adopt aggressive out-sourcing procurement targets

6. Atlantic Canada Financial Services Initiatives

6.1 Adopt coordinated, uniform securities regulations
6.2 Establish single Atlantic Canada Securities Commission
6.3 Aggressively promote private venture firms to Atlantic Canada
6.4 Abolish all government investments for private venture firms

7. Atlantic Canada Management School (ACMS)

7.1 Design virtual campus model for ACMS
7.2 Develop aggressive export/recruitment/scholarship model

7.3 Integrate grades/course recognition of member schools
7.4 Seek out significant private sector funding for IT support

8. Atlantic Canada Trade/Export Promotion Partnerships

8.1 Design annual trade promotion export targets
8.2 Develop significant Atlantic trade shows in Atlantic Canada
8.3 Institute export targets in the non-tradeable sector, including the public sector

9. Council of Atlantic Premiers

9.1 Develop larger policy role for CAP on pan-Atlantic issues, with internally developed research papers or by contracting out
9.2 Sponsor more issue-by-issue research on Atlantic Canada for Canadian audience
9.3 Work with local think tanks and research bodies to develop an annual Atlantic Competitiveness Report

10. Atlantic Canada Energy Strategies

10.1 Develop Atlantic Canada energy research cluster
10.2 Coordinate Atlantic electricity export promotion/trade targets
10.3 Coordinate Atlantic Canada deregulation policy and investment initiatives

APPENDIX ONE: BIBLIOGRAPHY

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